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WE DO THE M2

Build guide, walkaround and archive features

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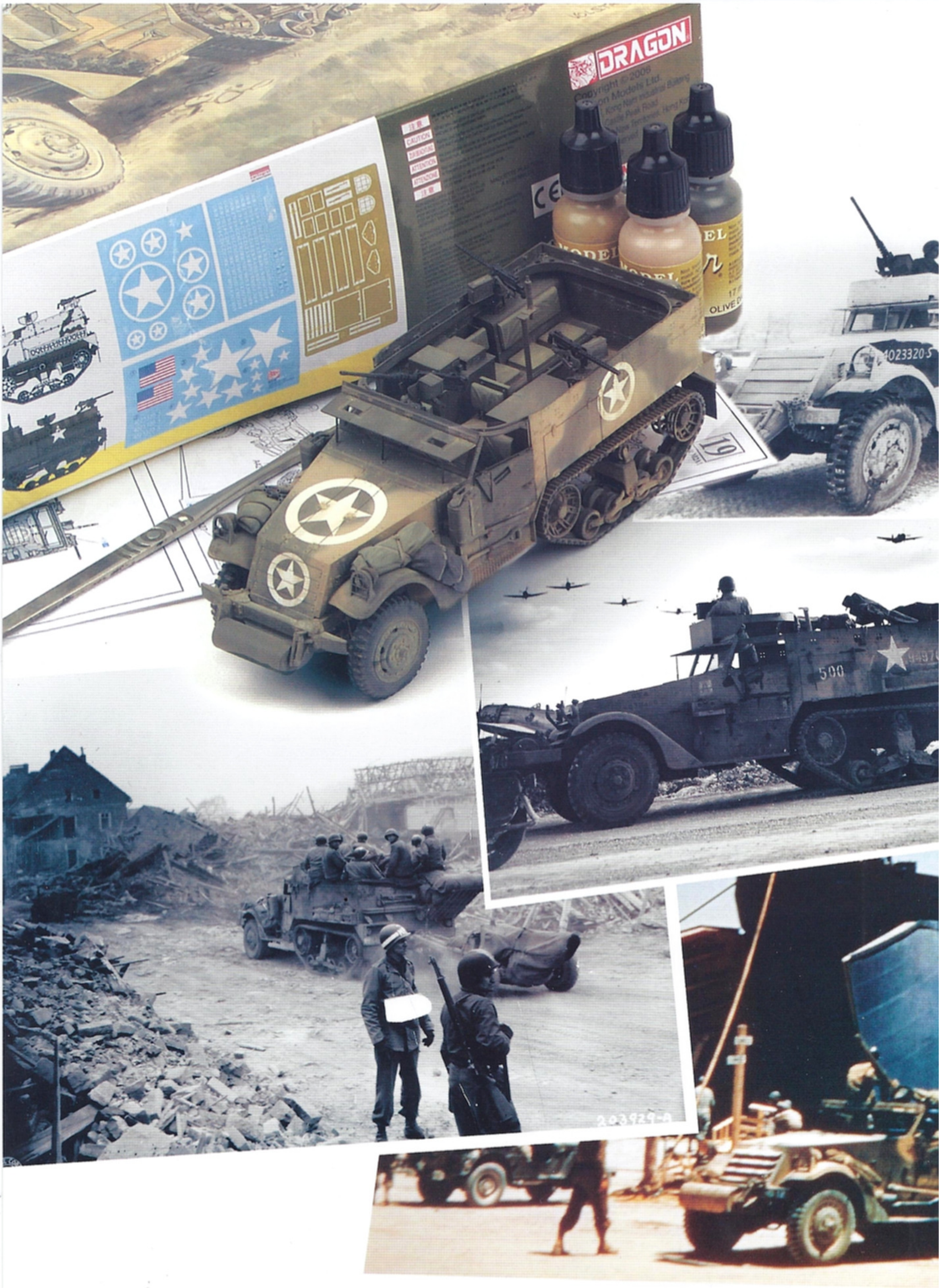
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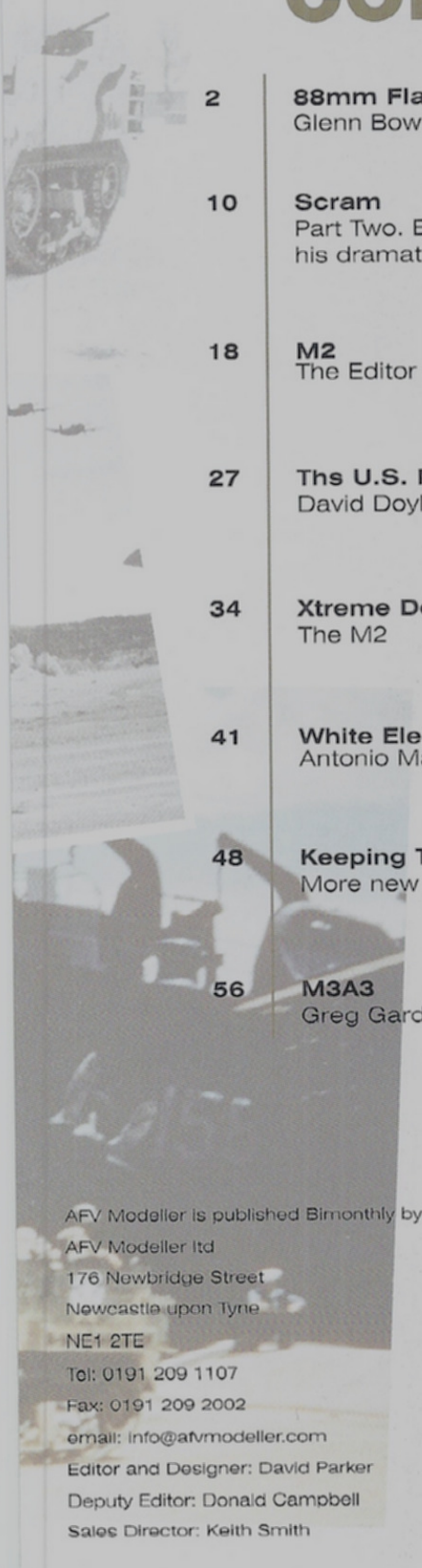

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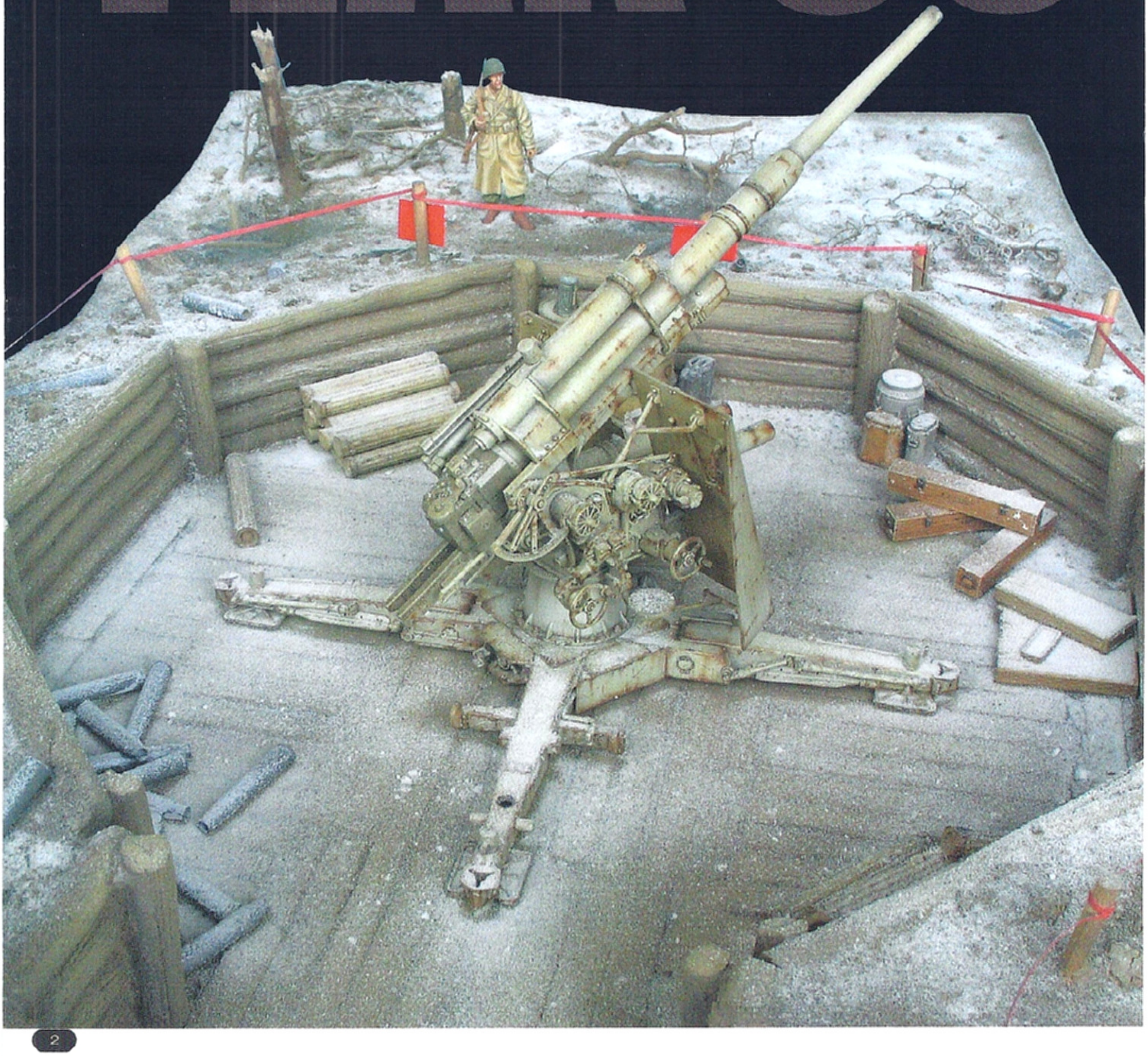
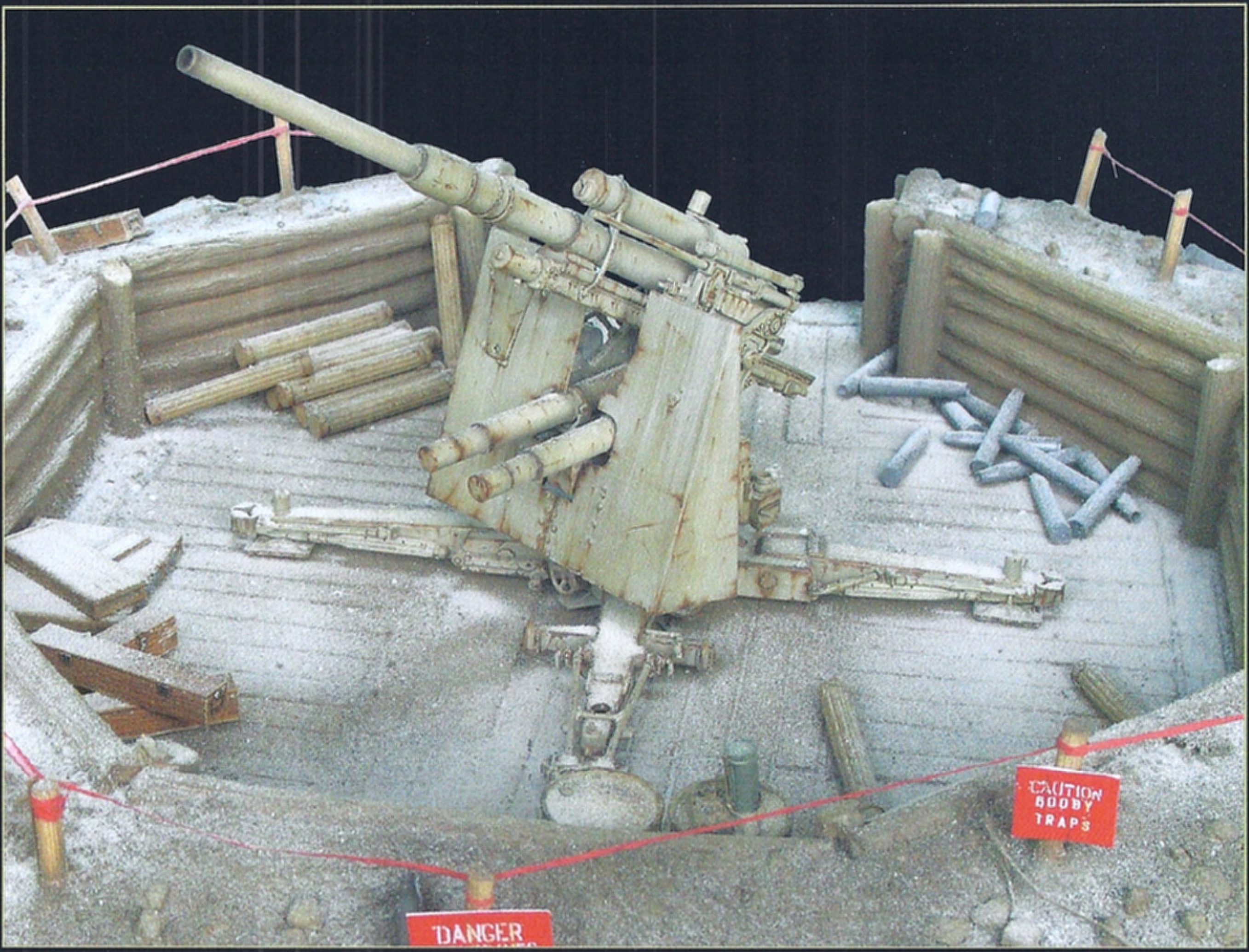
88mm FLAK 36

Glenn Bowen builds the Dragon kit

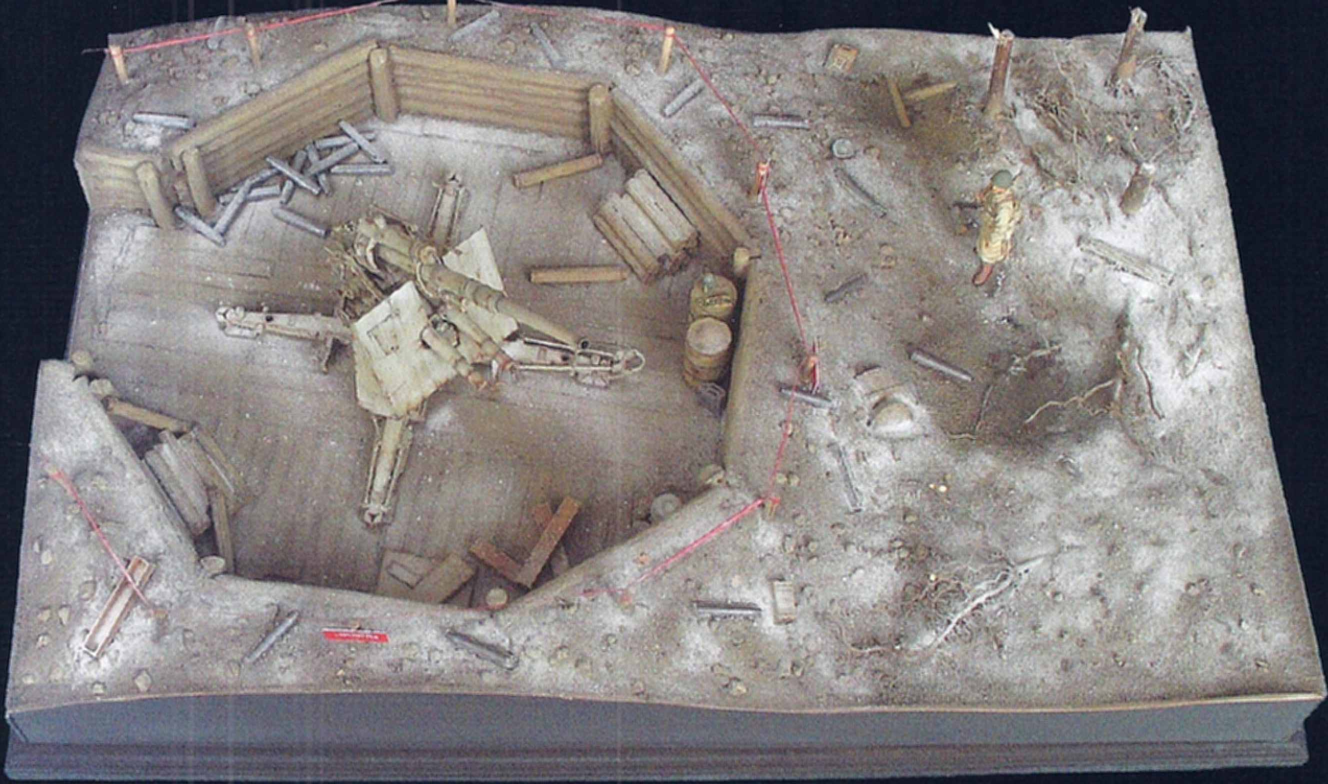


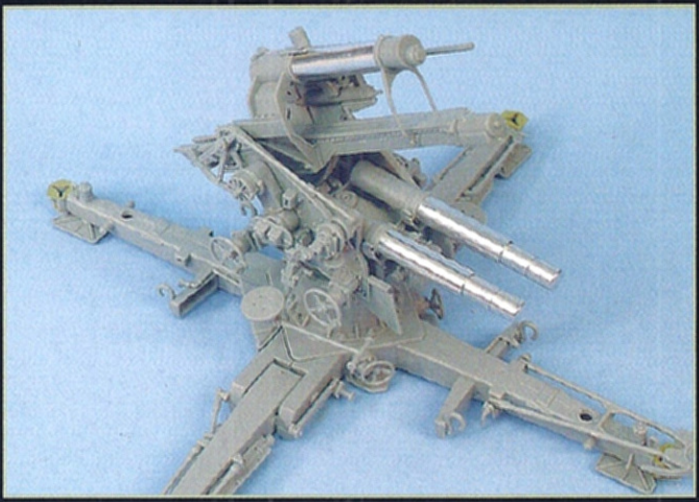


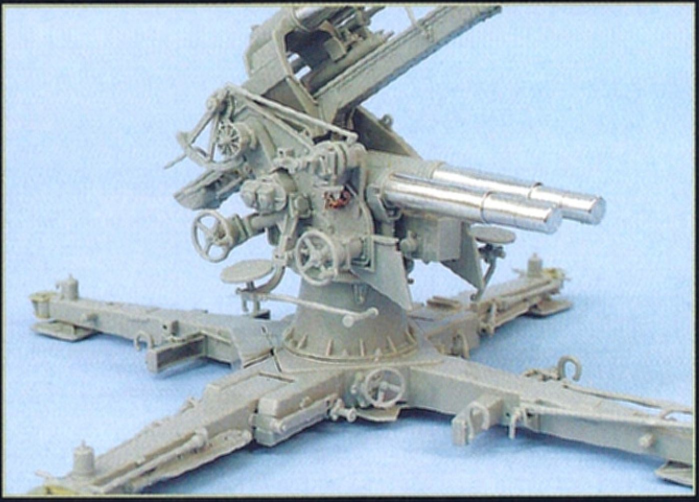
Well here's Dragons FLAK 36 and what a kit it is too. The box simply overflows, how did they manage to pack it all in I do not know. There are twelve sprues altogether, plus a small box witch contains two types of metal barrel and three brass shells. There are also two photo etched frets, one which details the legs and one that has detail for the shell cases and you also get two different sizes of chain. It doesn't end there either! Oh no, Dragon has also included six beautifully sculpted crew figures in winter clothing. The detail is outstanding as it is on all their latest releases and the kit also supplies a decal sheet which allows the builder a choice of six different marking options.

Getting Started

The build process starts off with the main gun assembly, which allows you to either build a type 36 or an 18. At this stage one has to make the decision whether to use either the metal gun barrels or the plastic kit ones. I chose to use one of the metal ones and also to build the type 36. I should imagine that most modellers will choose to use one of the metal barrels because it cuts out all that filling and sanding down of the seam which will run along the top and bottom of the plastic one. (A lazy lot aren't we). Next comes the assembly of the cradles for the gun. Dragon have also given the modeller two options here, they give you two types of cradle side which allows you to either build the gun with or without the gun shield fitted. As you can see I chosen to have it





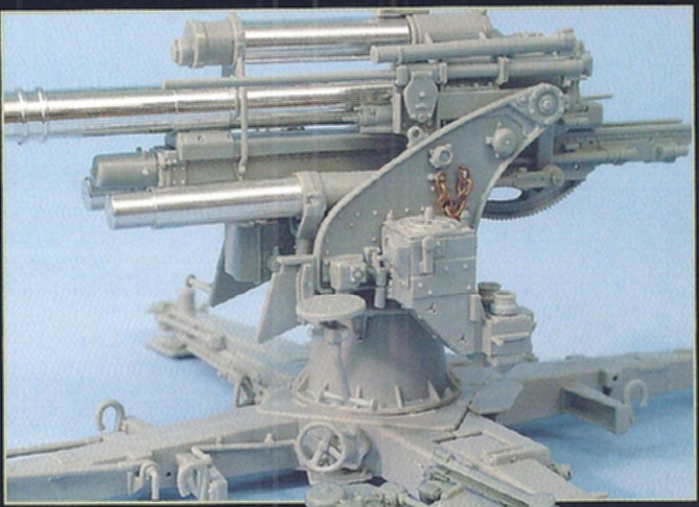


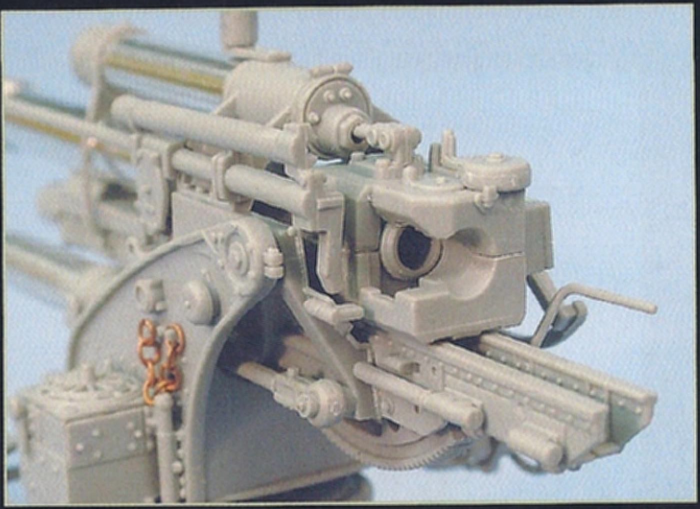
fitted. The fit of the parts is really good here with no problems at all.

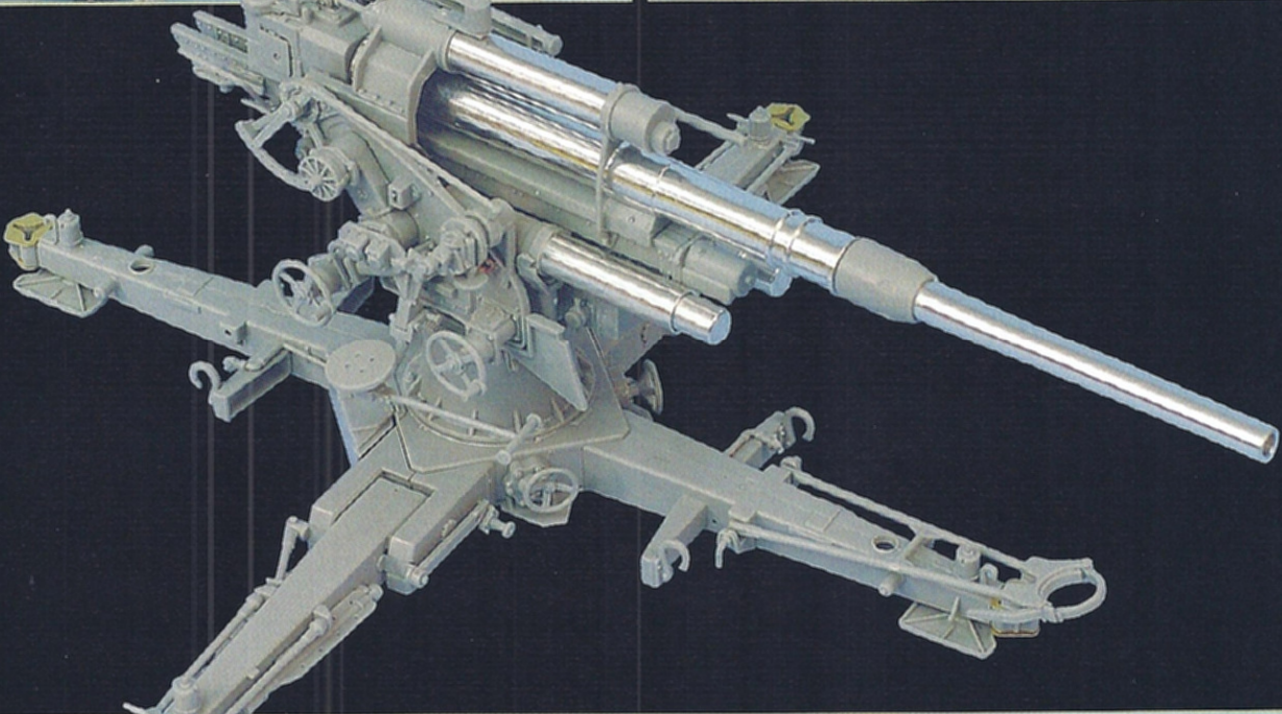
Now for the leg and platform assembly. The assembly of the legs is straight forward enough, just make sure you follow the rather complex instructions carefully, otherwise you might end up with one of the legs down and the other in the transportation position. Once all four legs were built up it was time to glue them into position on the platform. This was also simple enough to do, the only other things that had to be added here were the hydraulic cables and wheels. The following fifteen stages in the instructions deal with the build up of the bogies. As I was not going to use these on this diorama I did not assemble them, so I cannot really comment on them, but no doubt they will be just as good as the gun itself. With this huge chunk taken out of the build all that was left to do was to add the shield. So with the guns complete with no major problems all that it needs now is an appropriate paint job, lets see if I'm able to do it.

All washed out

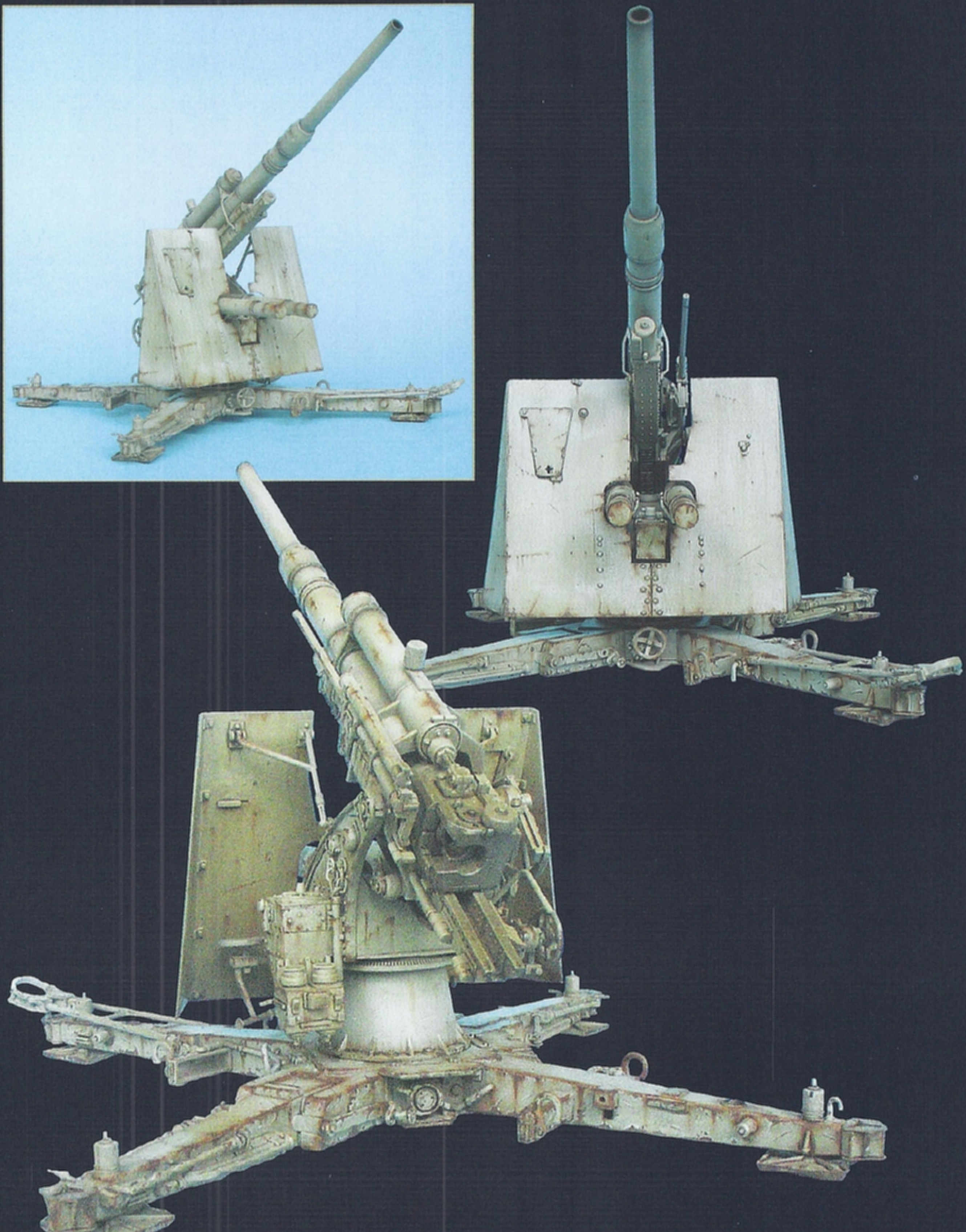
I had a good idea of what I wanted to do with the gun and how I wanted it to look. It is always best to start a project knowing were you want to go with it, and not just jumping in feet first and hoping for the best. I knew that I wanted to depict the 88 in a winter setting, in a state of abandonment. With this in mind and the model built, out came the paint pots. This was going to be a late war diorama so the gun would have probably had a yellowish base coat. For this I first sprayed the entire model with Tamiya XF60 dark yellow. With

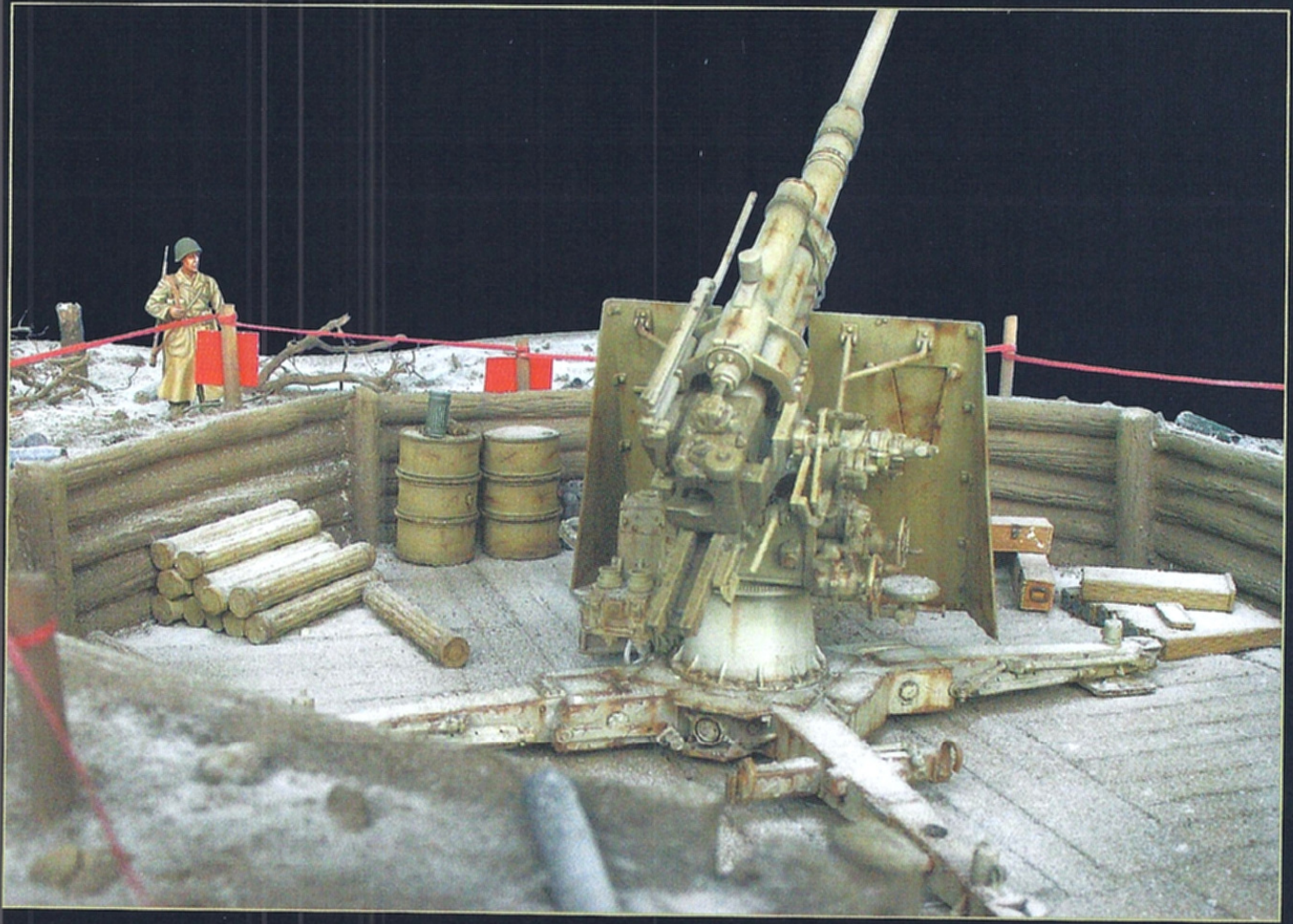






DANGER
EXPLOSIVES





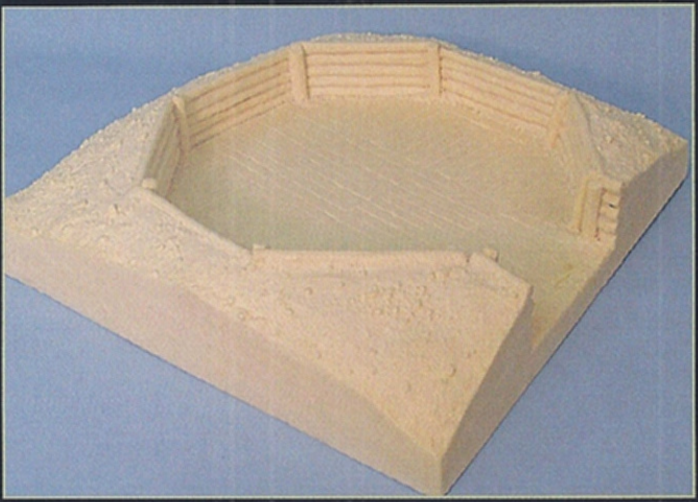
this as the base coat it was then lightened up with a touch of XF57 buff added to the base colour. This was misted on to the model so it just touched the raised areas so that it highlighted everything. Next the whole thing received a good blast of Johnson's clear floor polish. It was then set aside to dry for twenty-four hours. The following day it was time to apply the white wash, again I used Tamiya acrylics. Flat white XF2 was highly diluted with Tamiya thinners, and then airbrushed onto the whole model. Before the white could cure thoroughly I took a piece of scotch brite scouring pad dipped in Tamiya thinners and gently dragged it down the surfaces. This was to give the impression that over time the white wash was slowly fading and wearing away. Once I was happy with the result and it was what I was looking for, the whole thing received yet another coat of Johnson's clear varnish. This was done to protect the white wash from the weathering process's I was about to do.

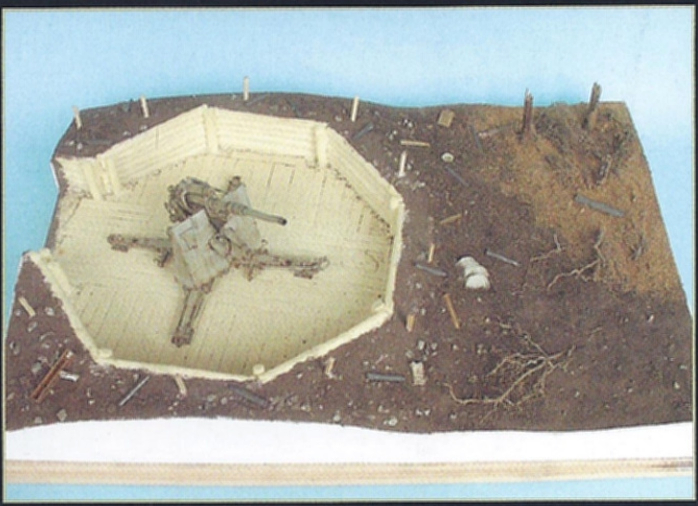
Paint chips n rust please

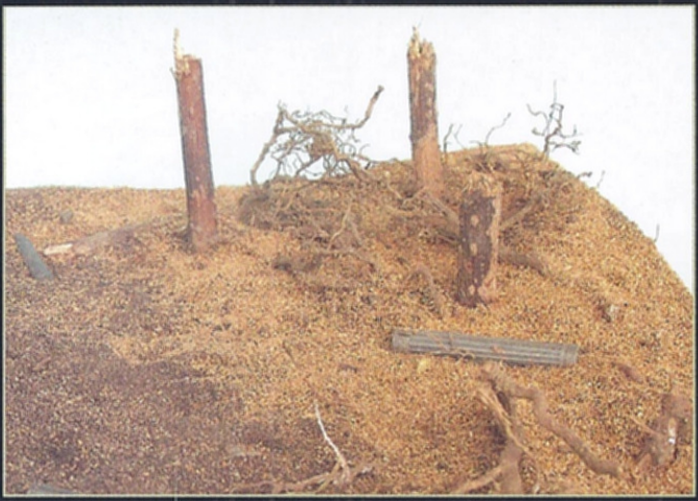
One day while I was at work I noticed some metal pallets stacked up, what caught my attention was the way that they were rusting. The rust did not look bright orange but different shades of browns. This was just what I wanted my 88mm to look like. So with the different shades firmly embedded in my head I decided to give it a go. The first thing that I did was to take some burnt umber oil paint (neat) and dabbed little dots where I wanted the rust patch to be. This was then blended into the model with a larger dry brush. Once I was happy with how this looked I was able to add the darker looking rust colours. For these I used Humbrol enamels. The first colour I applied was matt 160 chocolate brown with a touch of matt 33 black. Once all these where done I went back to the first one and added a bit of matt 62 leather brown. This was put on in small amounts and not on every scratch, because I didn't want every one to look the same. This can be a long-winded process, but the end result is well worth the effort. It took me about three days just to do this part of the painting. With all the chips done and out of the way the model was finished off with some light pin washes of various brown oil paints and MIG pigments.

Setting the Scene

The Editor had just sent me a German 88 gun emplacement by an American company called Just Plane Stuff. This is a new company to me, but judging by the





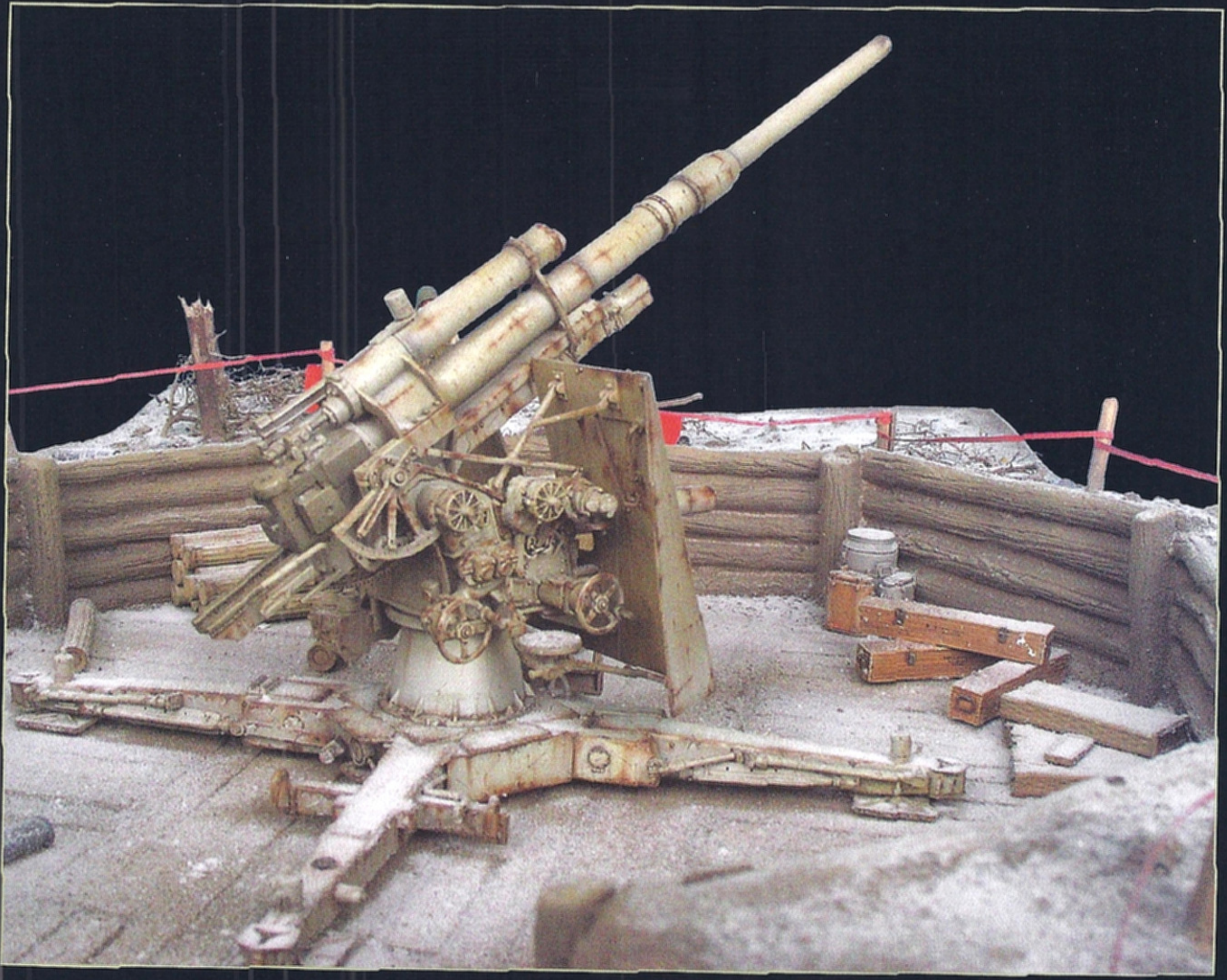


quality of this emplacement I can highly recommend them. It is based upon a typical European or Russian front emplacement with log sides and wooden plank flooring. It is made out of a medium density foam resin, which makes it very easy to work with.

The emplacement is big enough to take a 88mm gun and crew and would look fine by itself. But this was not what I was looking for. I wanted to show the gun in a state of abandonment with a GI stumbling upon it. So the base had to made a little bit larger. First of all the emplacement was glued into position with PVA glue onto a baseboard. Next I took some polystyrene sheets and built up the other end of the base, this was to prepare for the groundwork to be built up. Once these were in place I then built up the sides of the diorama by gluing pieces of plastic card in place. This was then set aside to dry out for a few hours.

Now it was time to build up the groundwork. I wanted to set the scene on the edge of a forest so I wanted to show a few tree stumps here and there. So for these I used some real tree roots. These where glued in place again with PVA glue. I then took some polly filler mixed with PVA and spread it all across the base, thinning it out as I got towards the emplacement. With this still damp the whole thing was sprinkled with fine garden dust that I had swept up out of my driveway. With this completed and any excess blown off, the used shell cases were pressed into the groundwork along with all the other bits n bobs. It was then set aside to dry out for twenty-four hours.

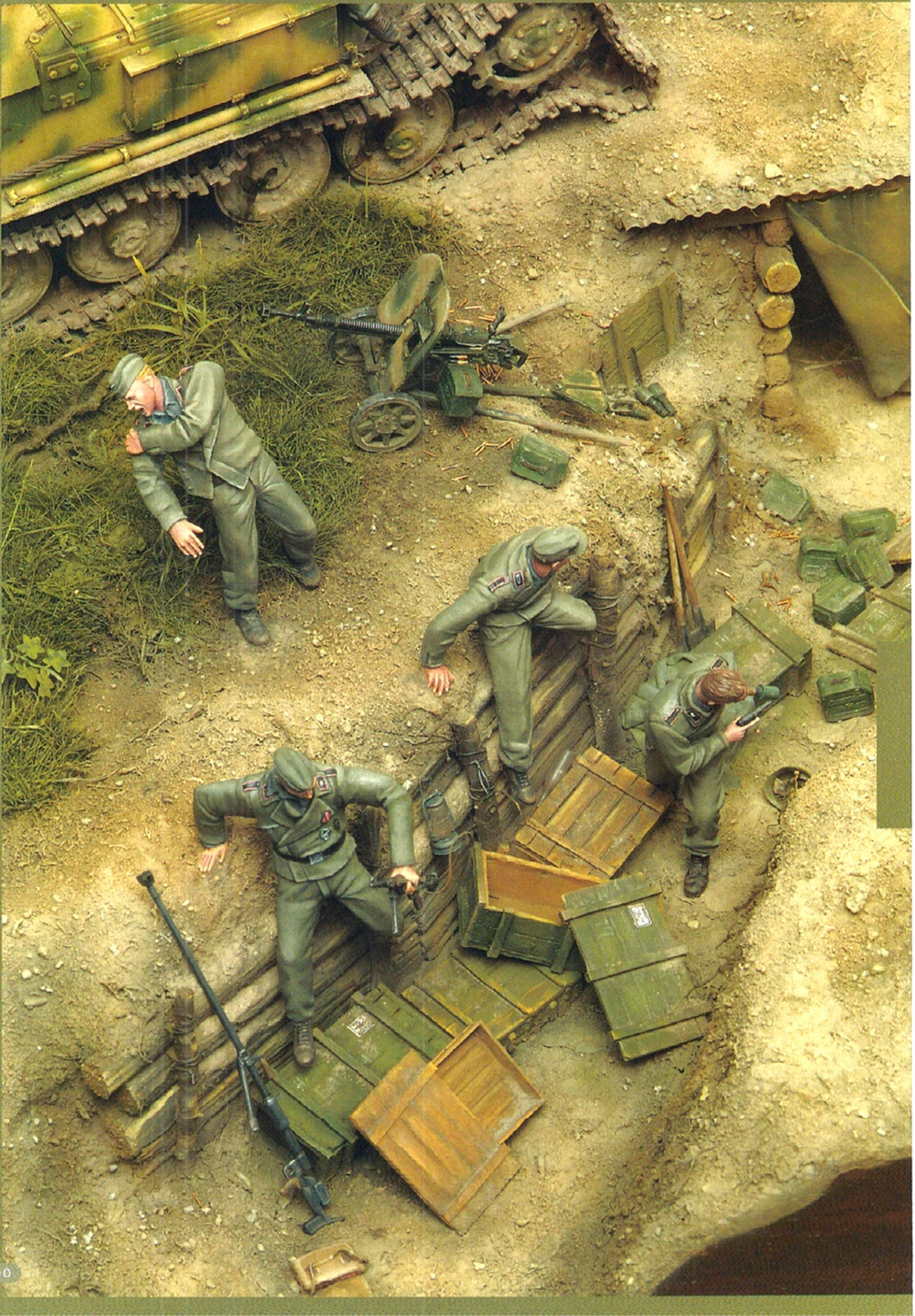
With the base completely dry it was time to add a splash of colour. As I intended this to be a late 1944 scene with the first falls of snow, and in a wooded area I wanted the ground to look dark to give it some contrast between the whiteness of the snow and the white wash look of the 88mm. So out came the Tamiya paints again. The whole base received a black and brown mix first. This was then lightly sprayed over with lighter shades of brown. Once I was happy with the result I then gave the whole thing a wash with burnt and raw umber oil paints. Small pin washes where also carried out on the base to pick out the finer details as well. Next I took some Plus Models fallen leaves (these

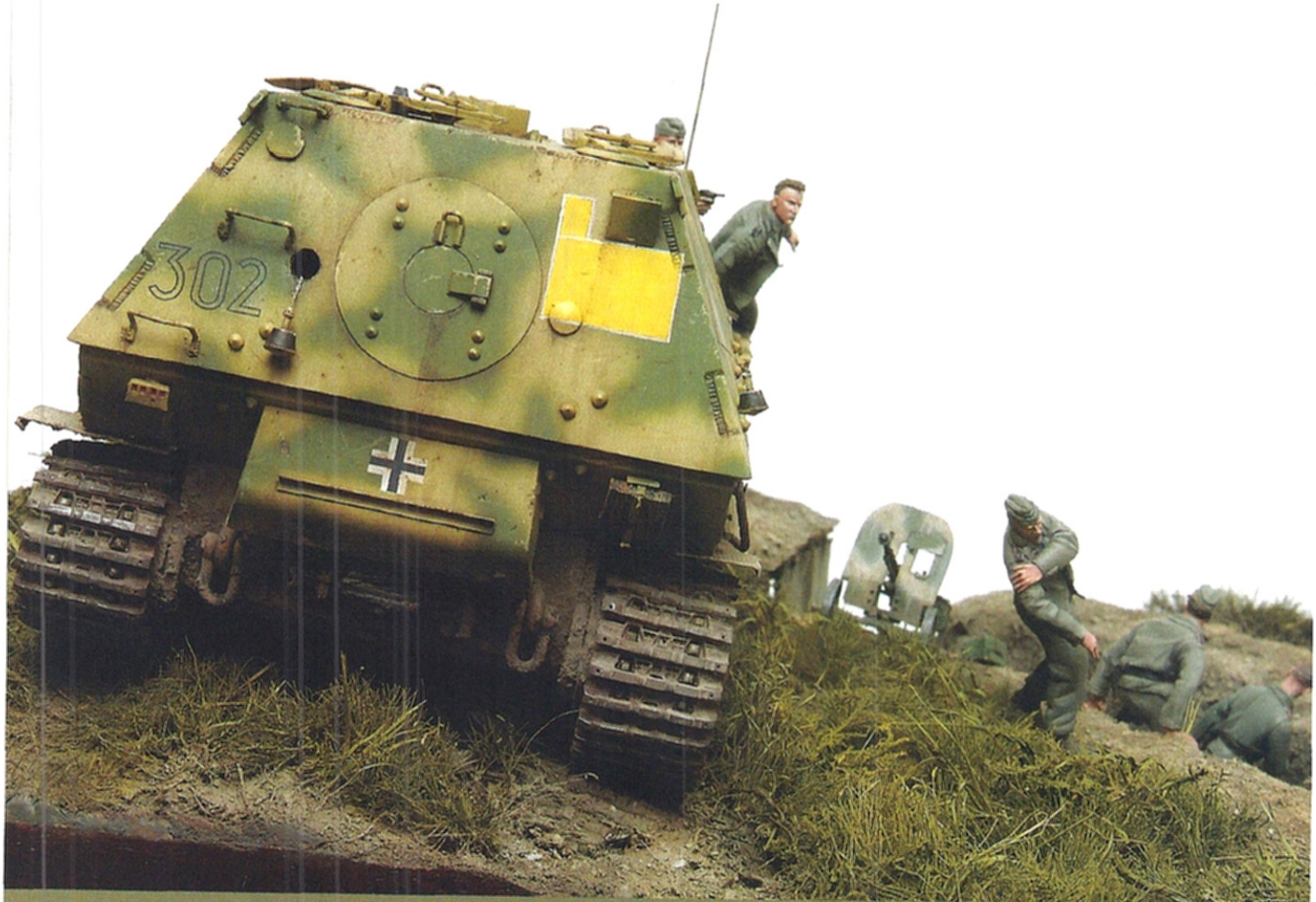


are really nice) and sprinkled these here and there. These where held in place with hair spray. Now that the scene was coming together I decided to add all the crates and boxes. The same amount of care was taken in painting these as was on painting the gun itself. Once all these where done and I was happy with the lay out they where all glued in place. With all this complete it was time to add the snow. For this I used 'Cast a Snow' that I sprinkled on here and there, glued in place by watered down PVA. Finally the lonesome GI was added, this chap comes from Dragons excellent advance to the Rhine set. He was built straight out of the box with only the head being replaced with one from the Hornet range of heads. His uniform was painted in Humbrol enamels and his flesh in oils.

Conclusion

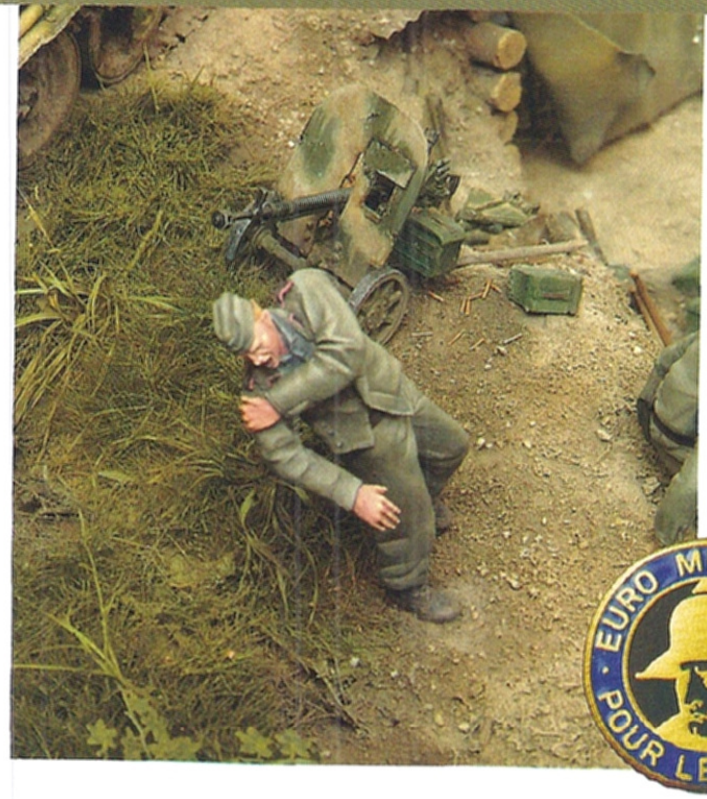
I must say that I thoroughly enjoyed working on this diorama. The Dragon 88 was a complete delight to build and paint with no major upsets at all. In fact I've got another one on the shelf, I might do that one next, but next time I'll use the bogies as well. So there you have it, I cannot recommend these products enough and the Dragon kit is another excellent addition to their range and a fitting replacement for the venerable old Tamiya kit.





In the Part Two of Bernhard Lustig describes the groundwork techniques used in his diorama

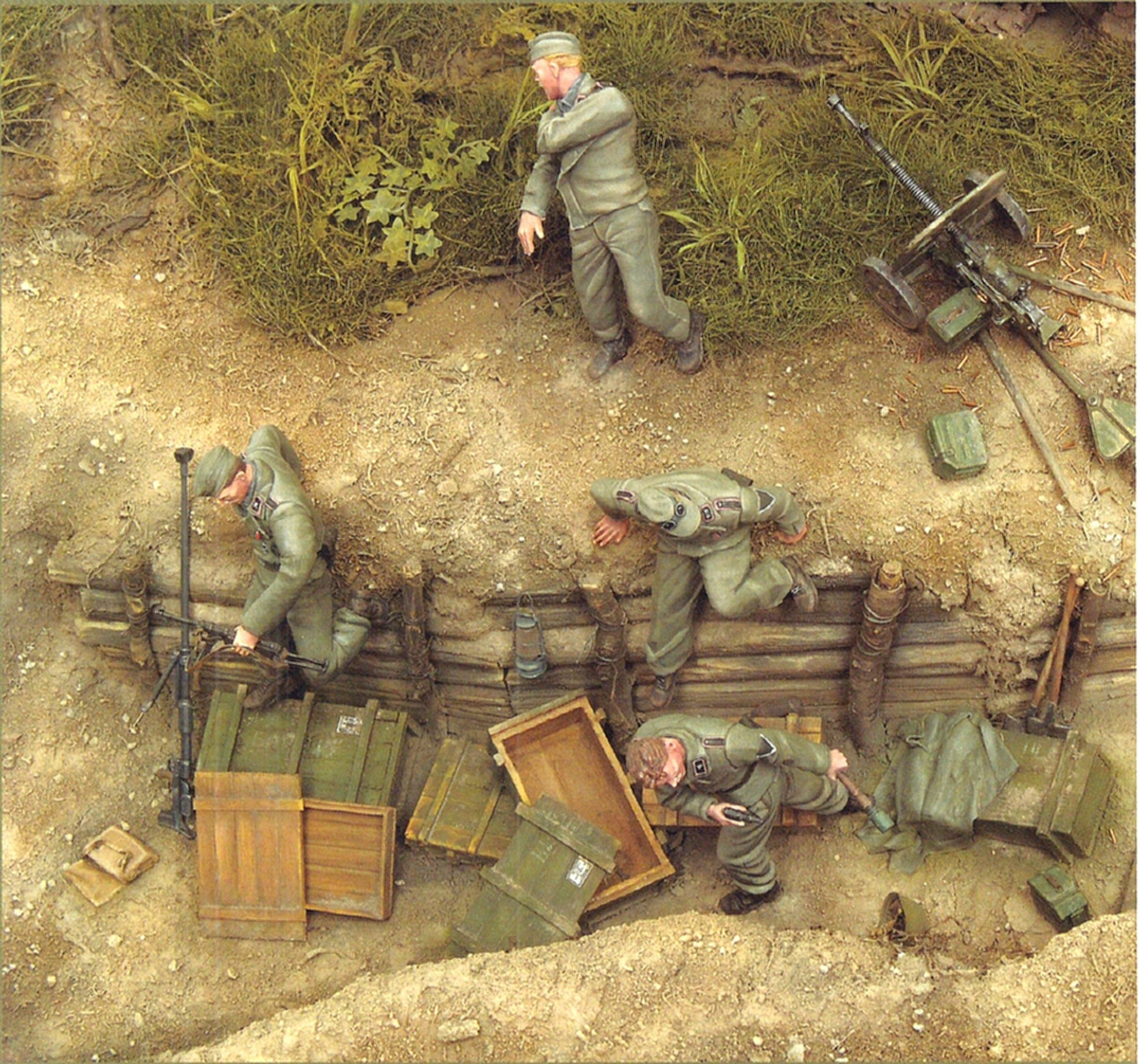
Scram!



As I described in Part one of this article, with the vehicle and the figures completed I turned my attention to the groundwork which would be an important component in the finished model and would also play an important role in telling the story.

The wooden frame

It is always a problem to find a good wooden base, which fits perfectly the diorama. For this reason I produced the frame myself. In my local hobby craftshop I ordered thin pieces of plywood. I cut the upper edges of the wood to follow the contours of my planned groundwork and gave it to a joiner´s workshop next to my home. They added a mahogany veneer



Looking down into the completed trench you can see how effective all the differenet tones and textures are.

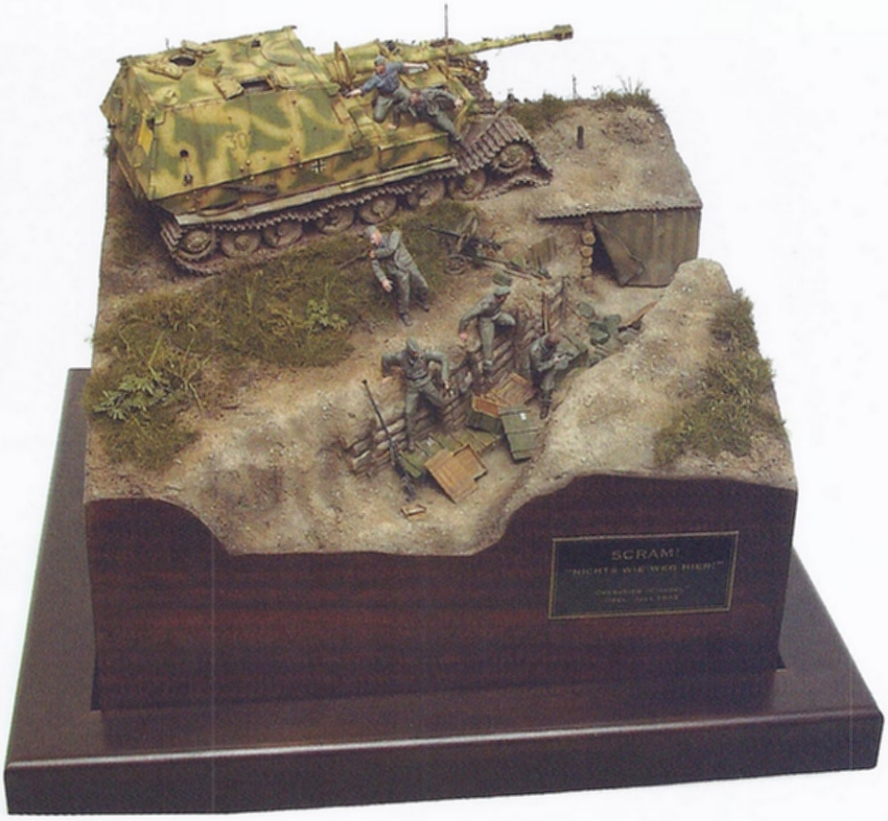
A mix of different foillage creates a natural look, here photoetched leaves mix with more natural products..

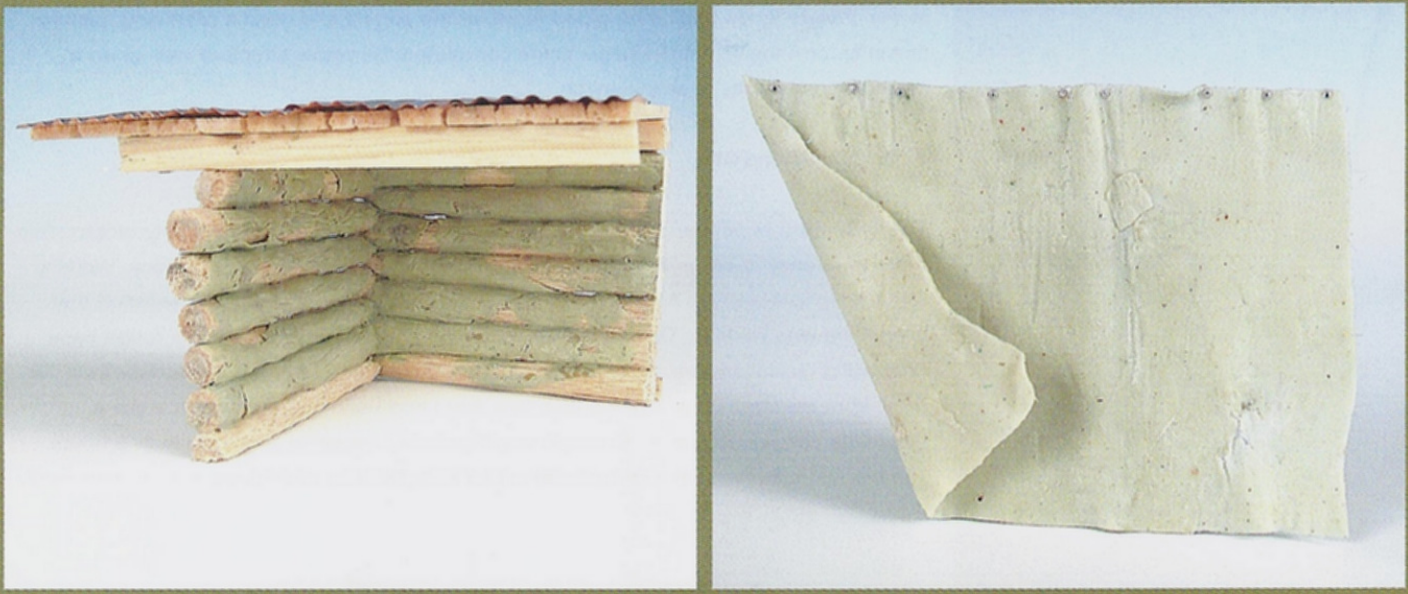
Spent cartridge cases litter the floor of the trench.

to the outside faces and I then glued together the panels and used a matching picture frame to form the rim at the base. Once completed the whole structure was given a protective overspray of satin varnish.

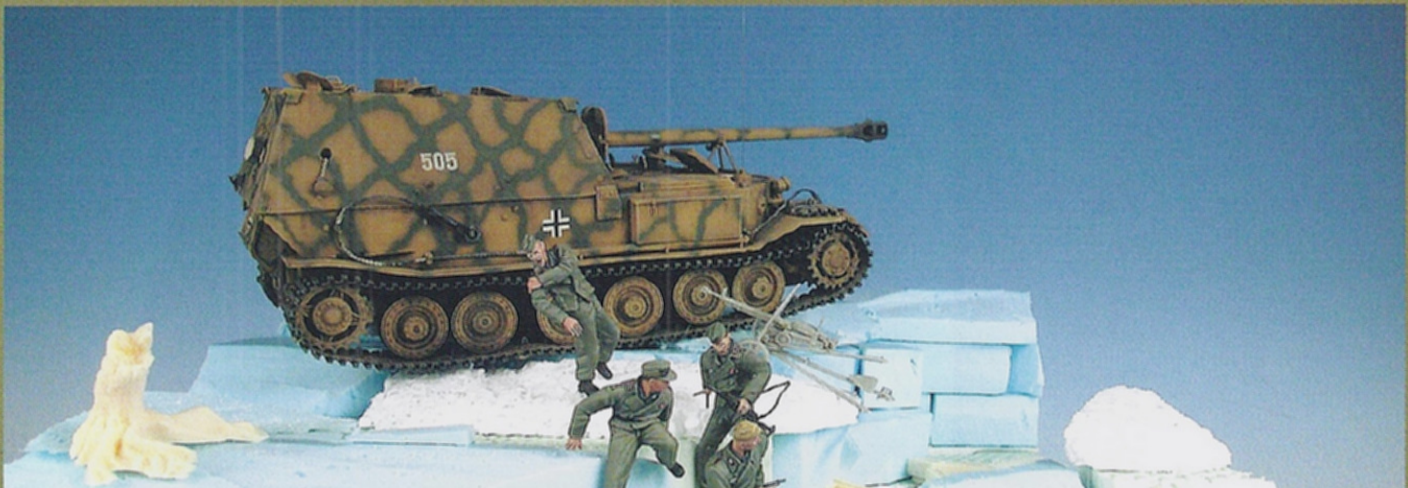
The groundwork

The underlying structure of the groundwork was at first planned out using styrofoam. This material is easy to cut and shape and allowed me to plan out the composition. Working with the vehicle and the figures I was able to adjust the layout until I was satisfied that everything was working. Once this was finished the styrofoam was given a rough base coat using modell plaster. After a drying period of 12 hours I formed the surface with 'Air Clay' from Humbrol. This was the first time that I had used this material, it´s like a terracotta clay which is easy to shape into the desired position and dries in 2- 3 hours. The biggest advantage of this material is that fitting figures or vehicles to it is really easy.

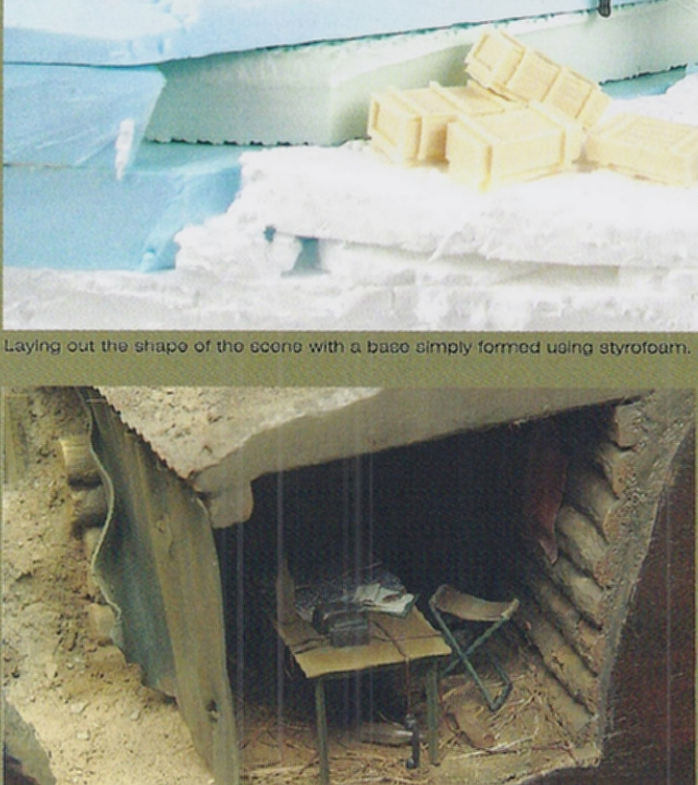


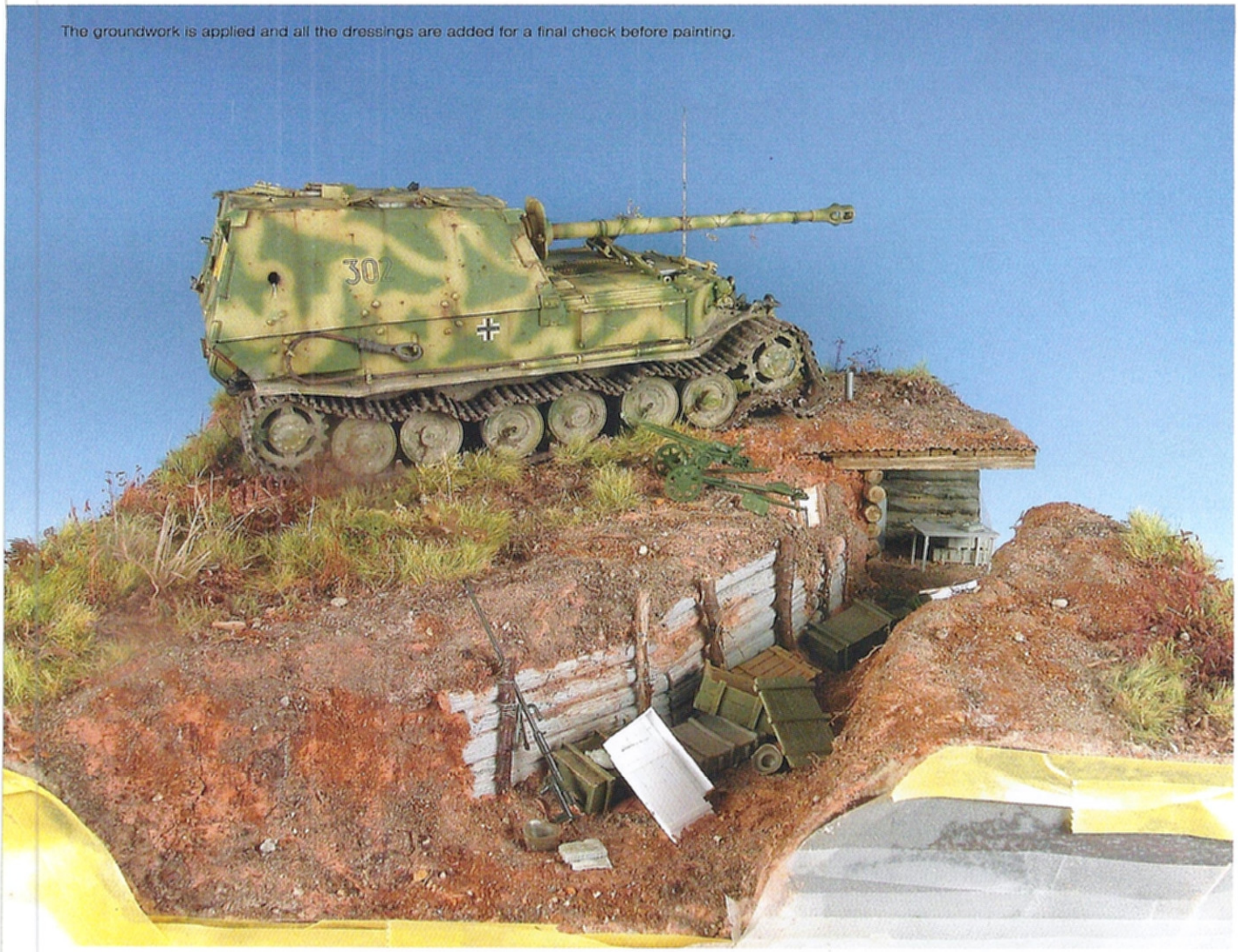


The basic components of the the dug out were simply made from balsa.



Laying out the shape of the scene with a base simply formed using styrofoam.





The groundwork is applied and all the dressings are added for a final check before painting.

It´s also easy to combine it with the HEKI-grassmat that I used for the majority of the grass. This can be done without using glue, I just softened the surface using a wide brush and a mixture of diluted woodglue and worked in the clumps of grass for a realistic natural look so that the grass is not sitting on top of the ground. This technique can also be used when applying the sand or earth in different grades and variations, allowing them to be fixed on the surface. The downside of working with this material, and this maybe as a result of working over it with the diluted glue, is that after it dried out completely, different cracks formed all over the surface. Not just very small ones either, also some very long, big ones could be seen, so I had to go back and fill the gaps .

The bunker was constructed with balsa wood 'logs', which were textured with Miliput putty. Metal foil was used to make a corrugated roof and the 'door' was formed using a rolled sheet of Magic Sculpt which works so much better than using tissue paper. The trench walls were also made from balsa along with real sticks for a more

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irregular touch. Soft wire was used to tie the sticks into the trench walls. The trench 'furniture' was made up of an assortment of ammunition boxes and crates which came from both the Mig Productions and Tank ranges, and I scratchbuilt some open examples from plastic sheet.

The grass mat clumps were supplemented with other vegetation to give a more natural appearance. For this I used some natural moss and grasses as well as some photo etched foliage. Having a variety of heights and textures is the key to creating a natural looking field and small roots were also added to the sides of the trench.

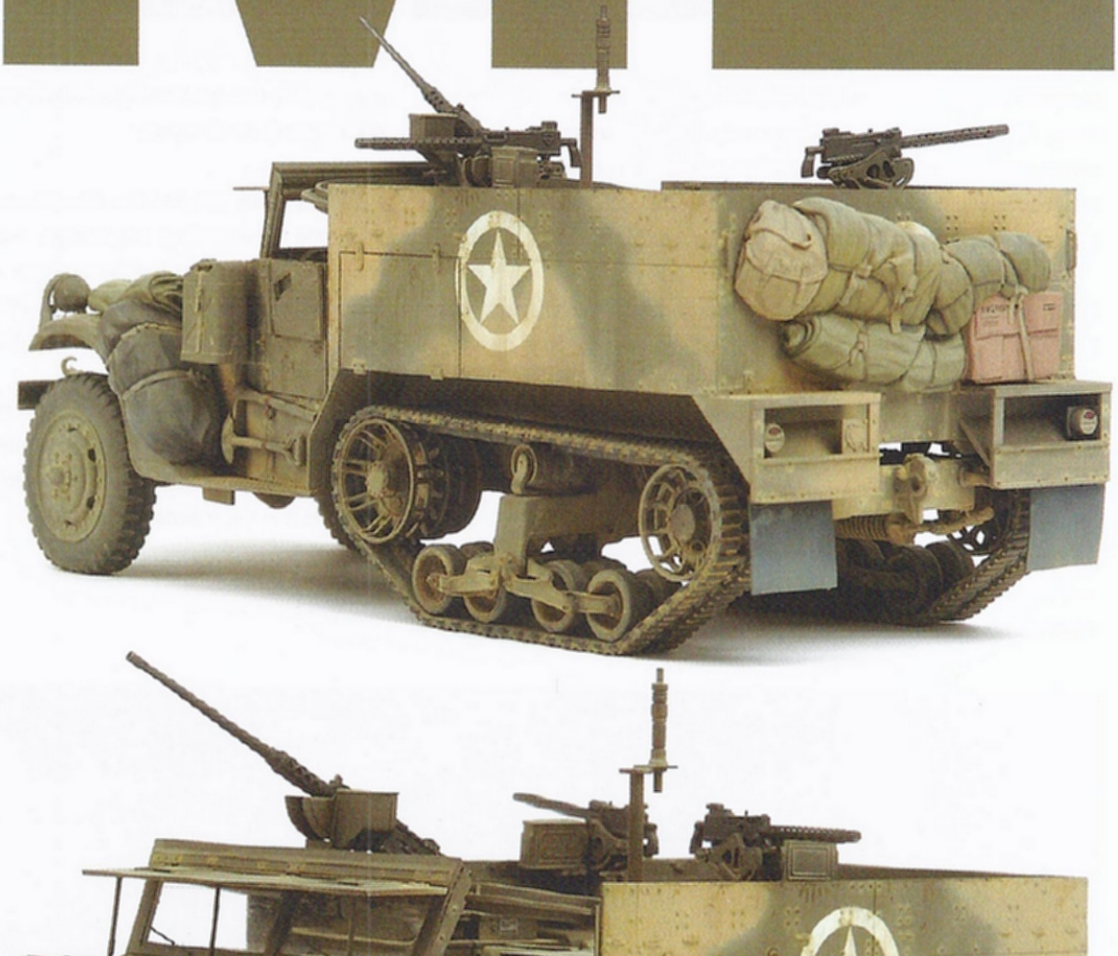
I painted the groundwork with different sandbrown colours and the small stones were picked out with a small brush and a bright colour. The grass was sprayed in varying shades of green, keeping the colours natural looking and blending them in with the surrounding earth tones.

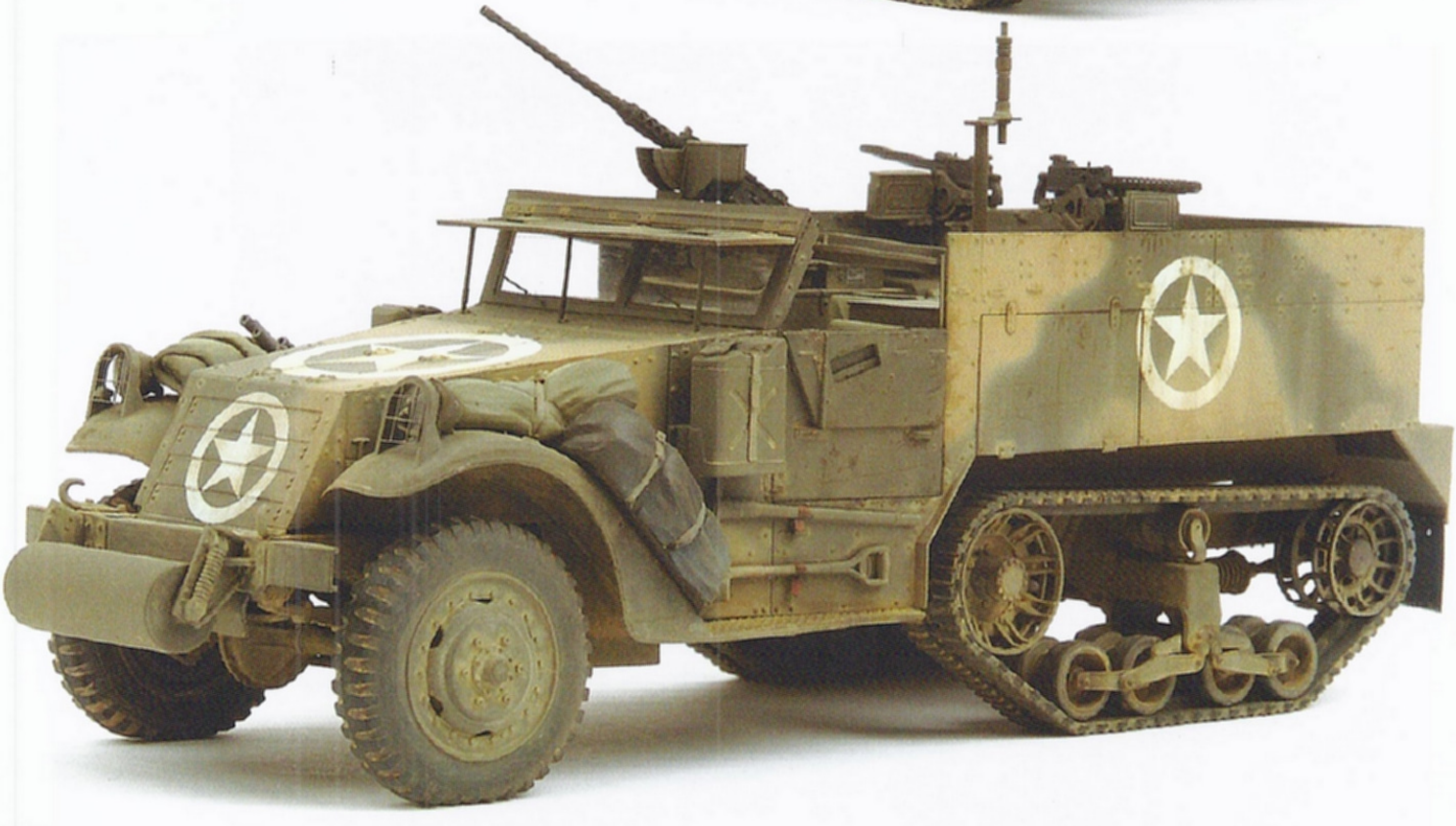
Finishing touches were the abandoned Russian weapons, the Anti Tank rifle I took from a old Tamiya T-34 kit. The heavy Russian machine gun is from the Tank-range. It´s not cheap, but has very fine details, and the Russian stick grenades, and ammunition canisters were also taken from the TANK range.

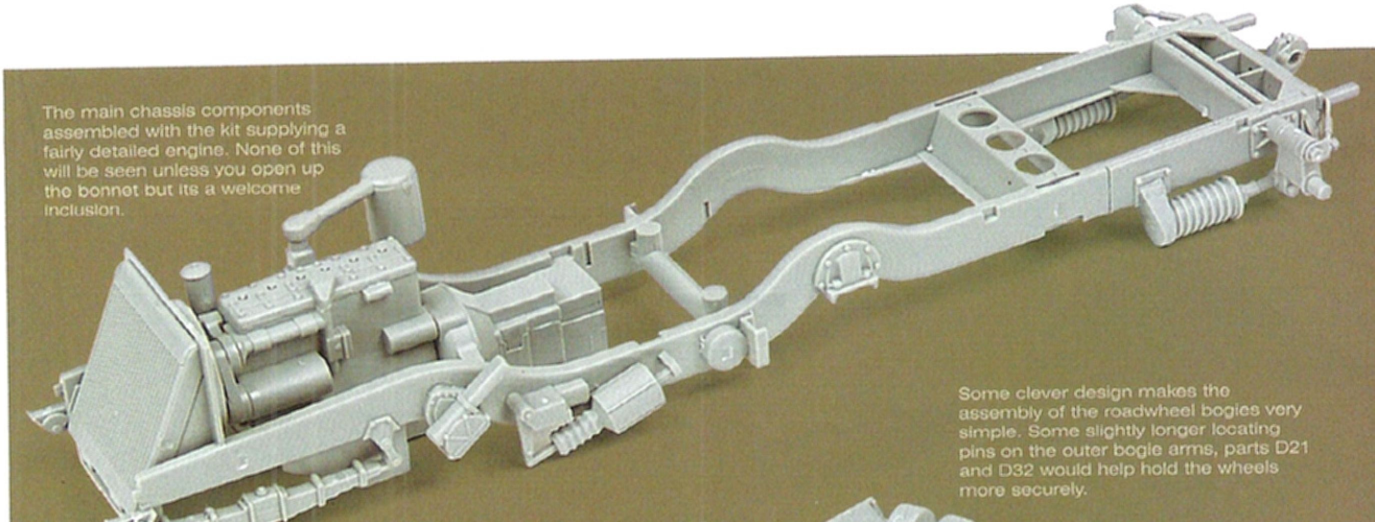
I would like to dedicate the diorama my late friend, Reinhard Huber, who began working on this Ferdinand but was unable to complete it before his death. His wife gave me the kit and I finished it in his memory.

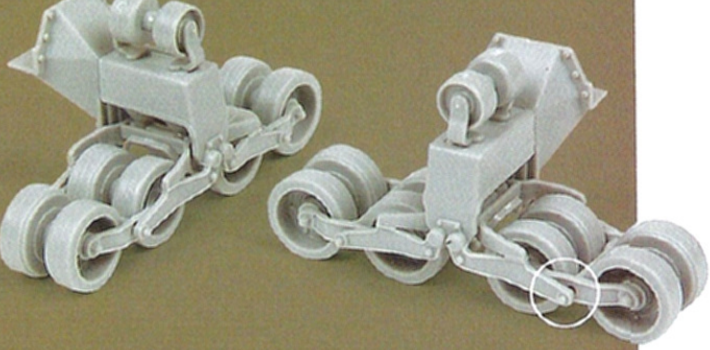
David Parker builds the Dragon Smart Kit

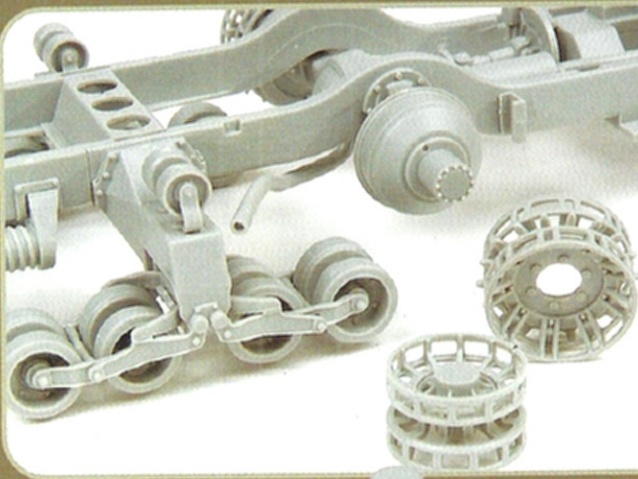
M2

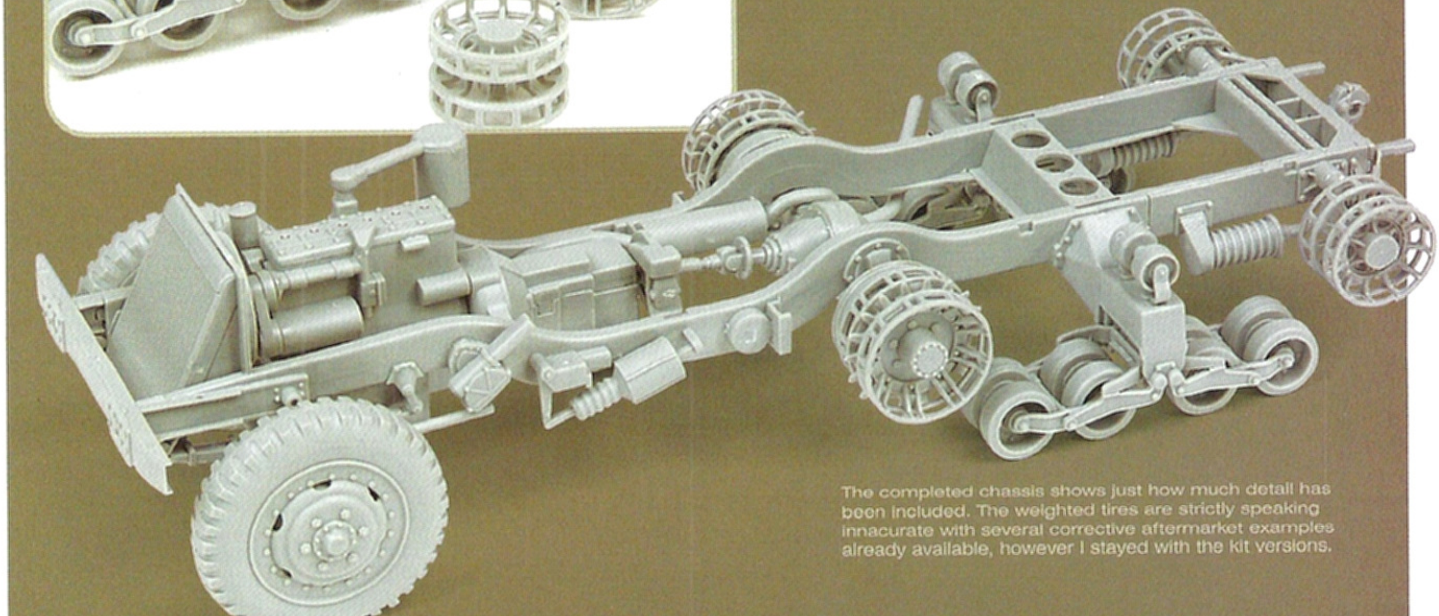





The main chassis components assembled with the kit supplying a fairly detailed engine. None of this will be seen unless you open up the bonnet but its a welcome inclusion.


Some clever design makes the assembly of the roadwheel bogies very simple. Some slightly longer locating pins on the outer bogie arms, parts D21 and D32 would help hold the wheels more securely.

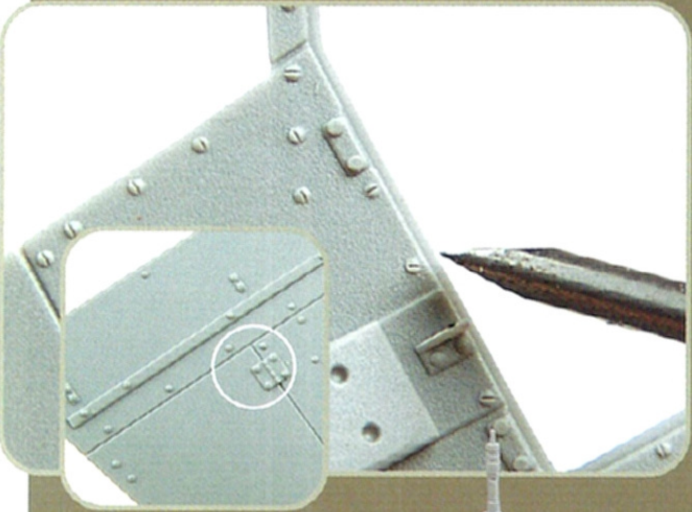

Superb moulding on the sprocket and idler are a feature of the kit. I decided not to glue these in place until after painting.


The completed chassis shows just how much detail has been included. The weighted tires are strictly speaking innacurate with several corrective aftermarket examples already available, however I stayed with the kit versions.

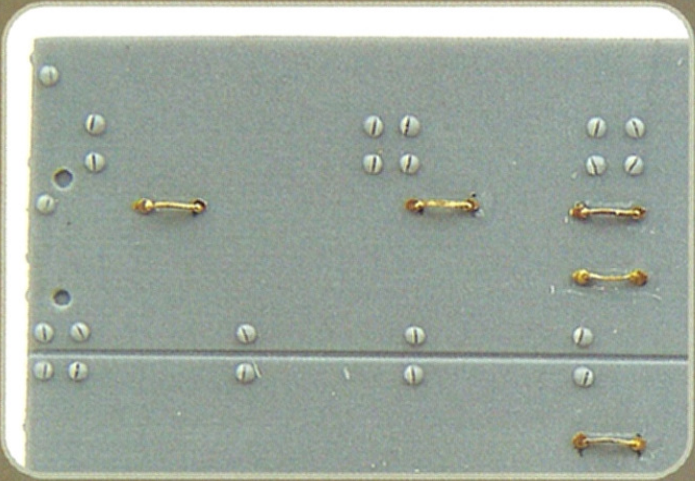
It is over thirty years now since Tamiya first released their classic kits of the M3 family. Since then the destinctive American halftrack has received little attention, until now. Much has changed in the interim and it was high time that someone like Dragon should revisit the subject and this combined M2 / M2A1 Smart kit is the first release of what will no doubt be a family of kits with the M3A1 already pictured in the 2007 catalogue. It has to be said that the vehicles tracked suspension presents any kit designer with a daunting task but Dragon have brought all their latest moulding technology into play and come up with some very clever solutions. As something of a landmark release for Allied armour fans I cracked open a fresh box to see just how well it all goes together and make a few improvements along the way.

Assembly begins with the chassis which goes together with no porblems and with some useful colour coded sections on the instructions to guide you through the more tricky areas.The design of the bogie units is very clever with the combined return roller bracket and spring unit sliding inside the outer case. I

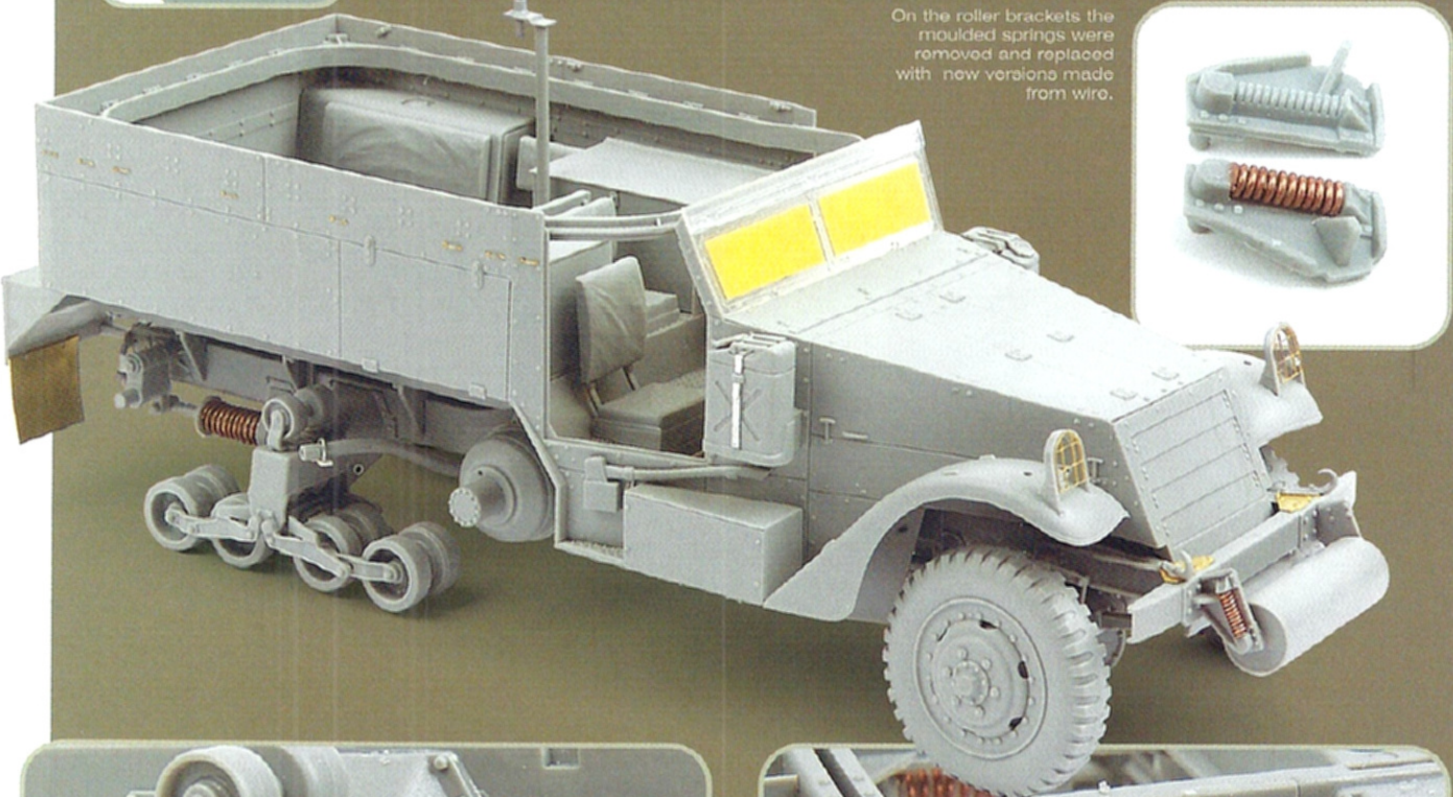
Most of the armour on the M2 is fixed with slotted screws, not the domed rivets moulded on the kit. This is easily fixed using a sharp blade to indent a slot in each head. I found the MISSION MODELS Micro Chisel was ideal for this.

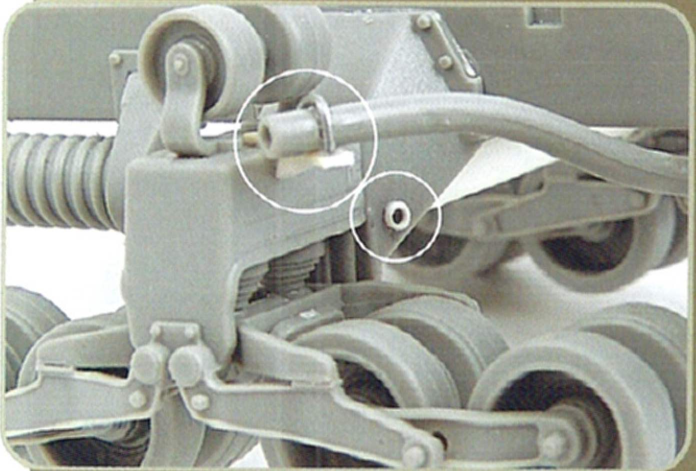


The moulded on stowage loops were carved off and and replaced with ABER photoetched loops.

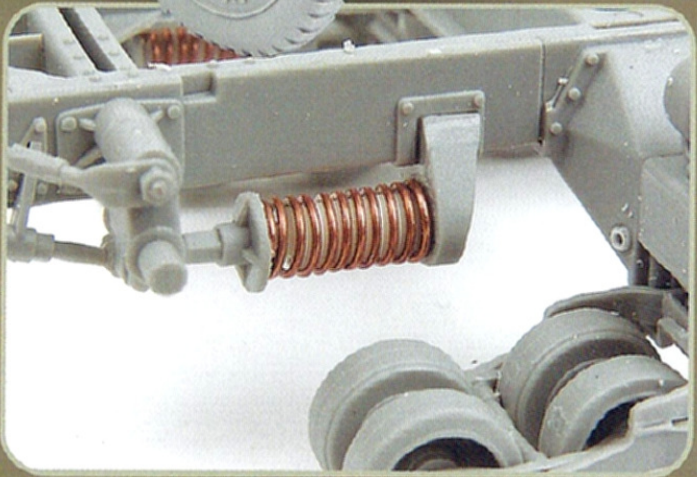


On the roller brackets the moulded springs were removed and replaced with new versions made from wire.

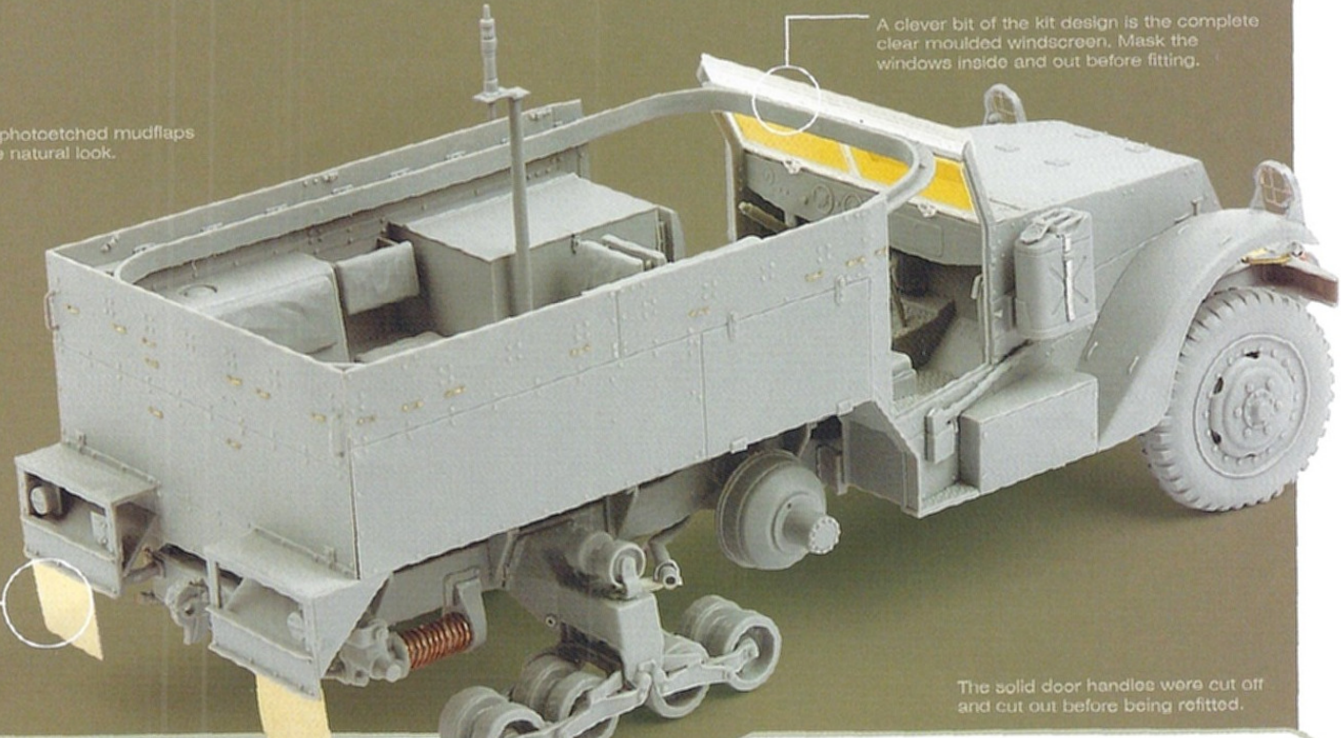




A simple plastic bracket was fabricated to hold the exhaust pipe and the drain holes on the suspension brackets were made with discs of plastic which were glued in position and drilled out when completely dry.



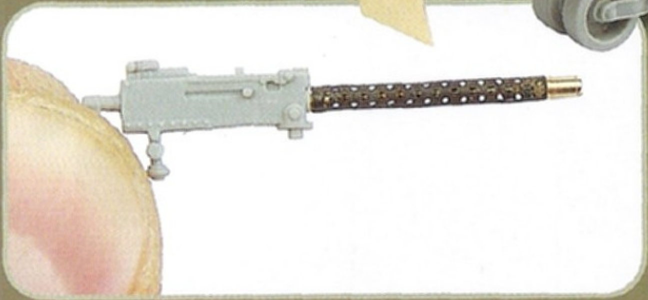
Something of a last minute decision was the replacement of the springs. The copper wire replacements are an improvement over the solid kit parts.



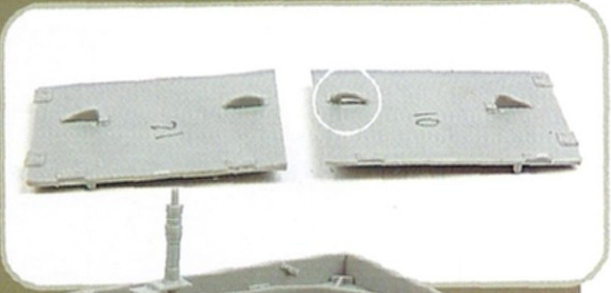
A clever bit of the kit design is the complete clear moulded windscreen. Mask the windows inside and out before fitting.

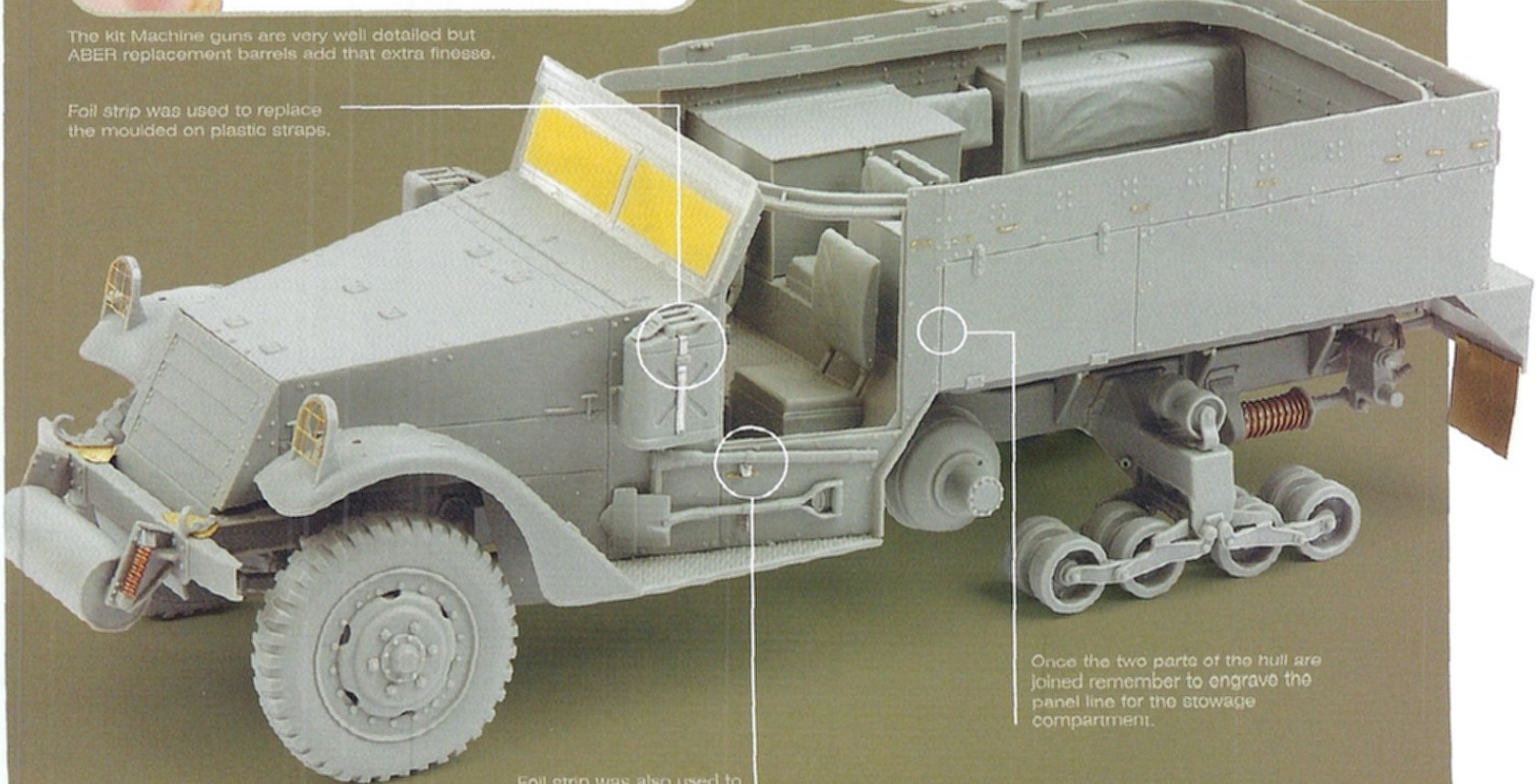
Bend the photoetched mudflaps for a more natural look.

The solid door handles were cut off and cut out before being refitted.



The kit Machine guns are very well detailed but ABER replacement barrels add that extra finesse.

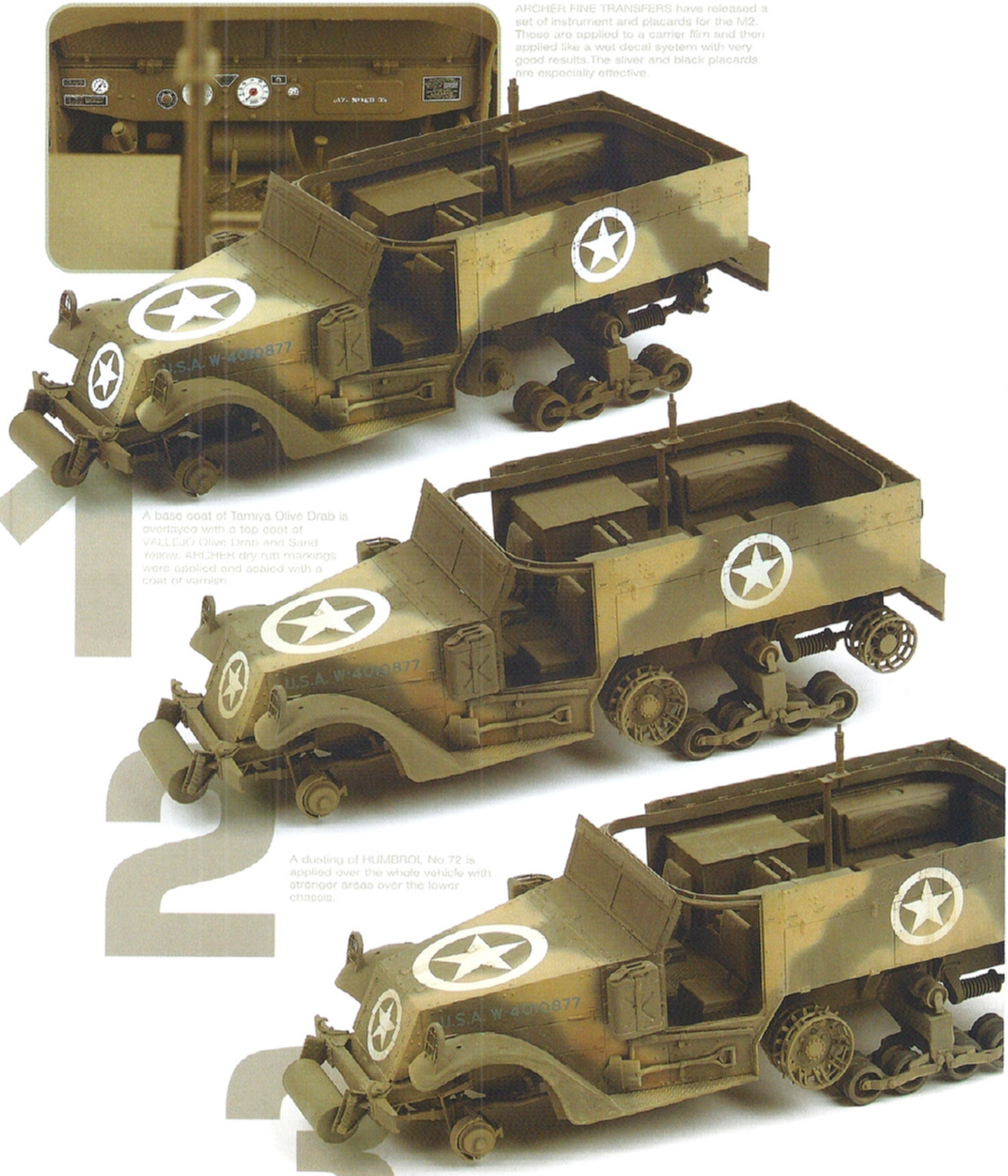




Foil strip was used to replace the moulded on plastic straps.

Once the two parts of the hull are joined remember to engrave the panel line for the stowage compartment.

Foil strip was also used to enhance the tool stowage.



ARCHER FINE TRANSFERS have released a set of instrument and placards for the M2. These are applied to a carrier film and then applied like a wet decal syetem with very good results.The sliver and black placards are especially effective.

1

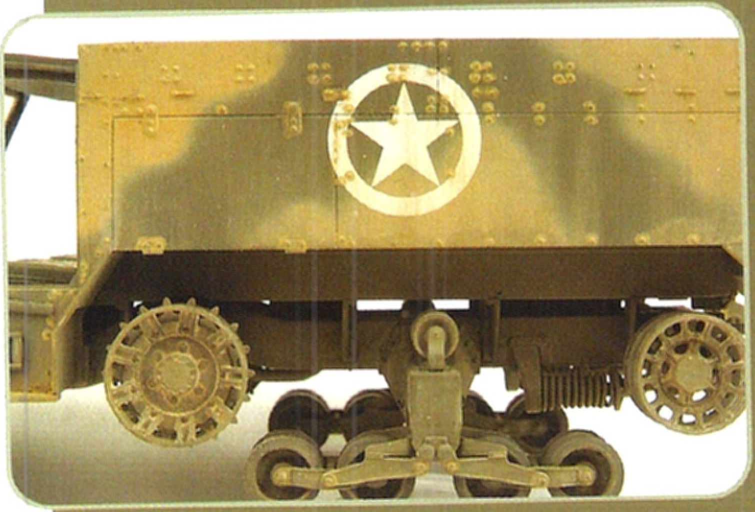
A base coat of Tamiya Olive Drab is overlayed with a top coat of VALLEJO Olive Drab and Sand Yellow. ARCHER dry rub markings were applied and sealed with a coat of varnish.

2

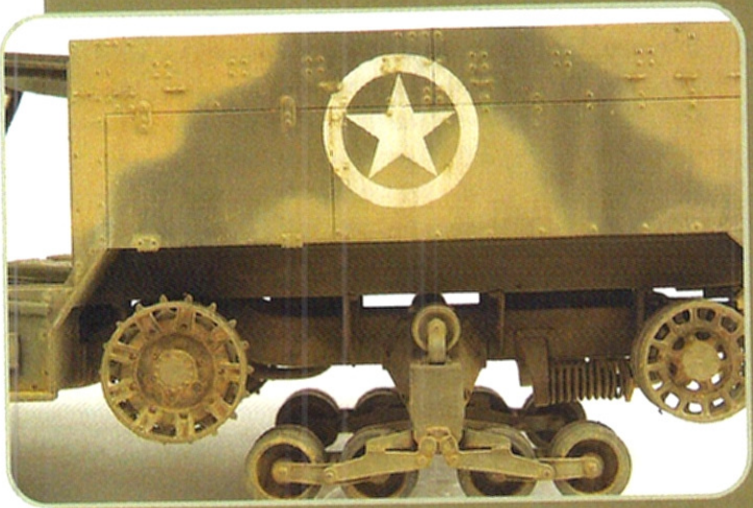
A dusting of HUMBROL No.72 is applied over the whole vehicle with stronger areas over the lower chassis.

3

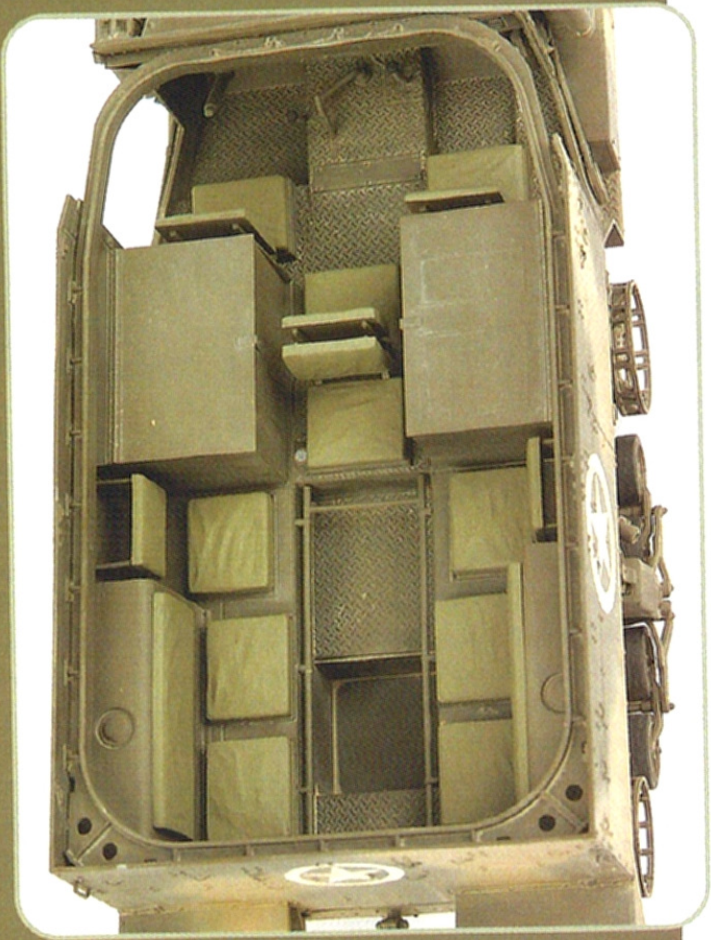
A very dilute wash of HUMBROL No.72 follows. This wash will loosen the dusting coat and allow the paint to be dragged and streaked an effect that is most noticable on the hull sides.



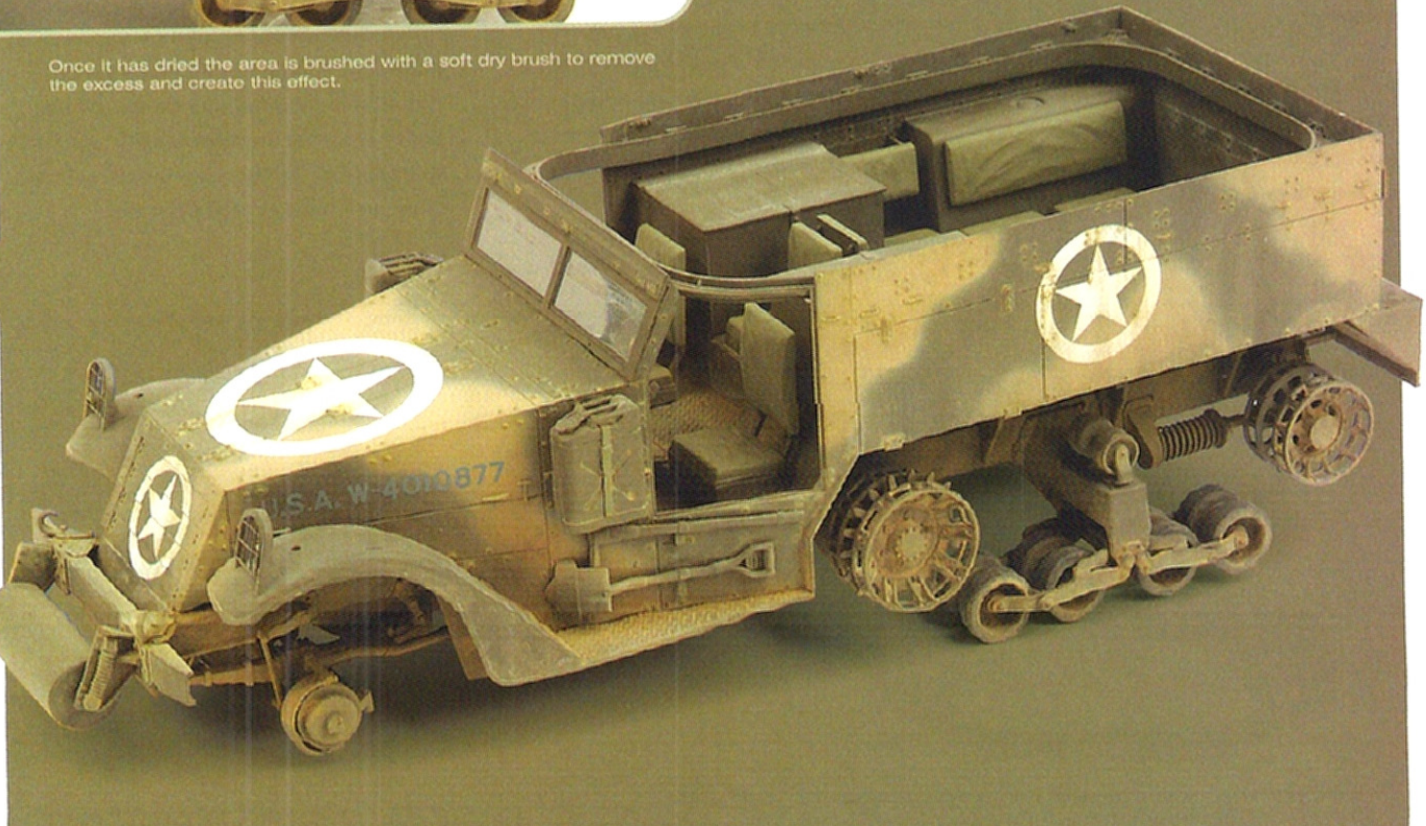
Powdered pastels are mixed with thinners and the mix is used to pick out all the raised details.

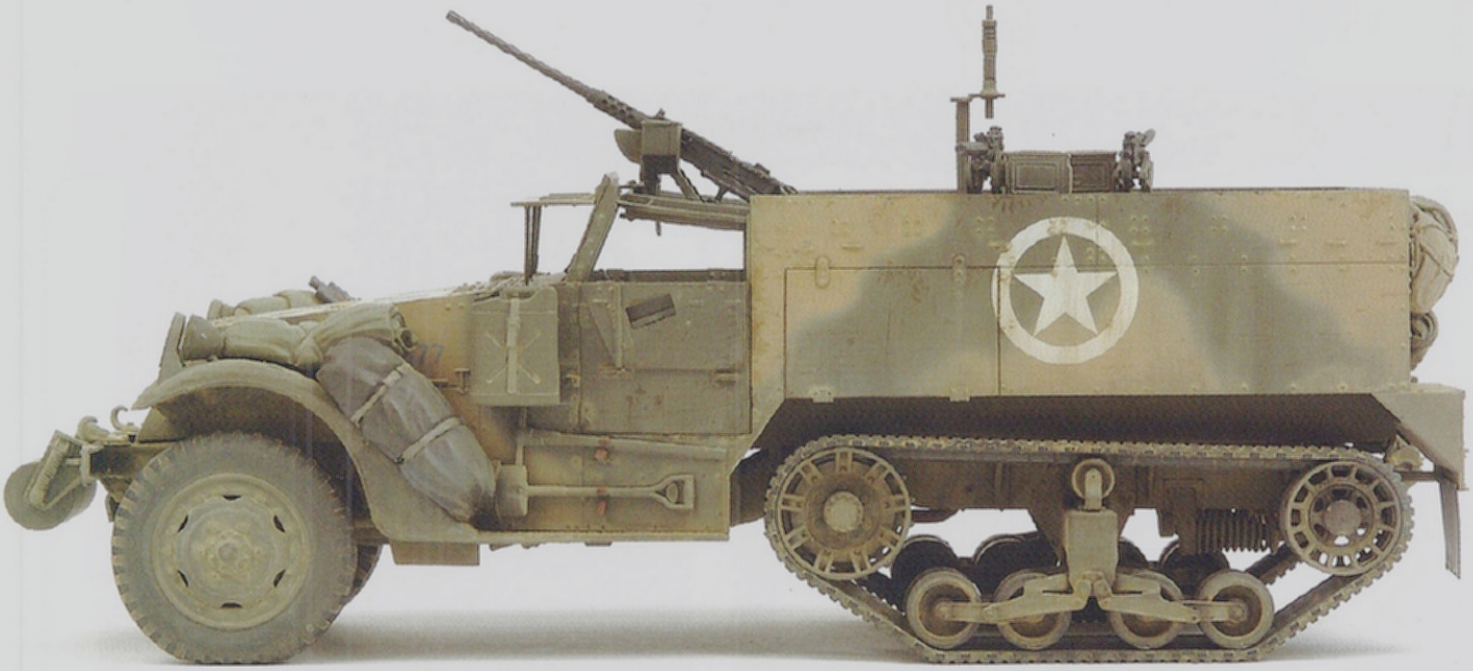


Once it has dried the area is brushed with a soft dry brush to remove the excess and create this effect.



The numerous seat cushions are painted in VALLEJO acrylics. Lighter tones will be applied to give some depth and a worn apperance.

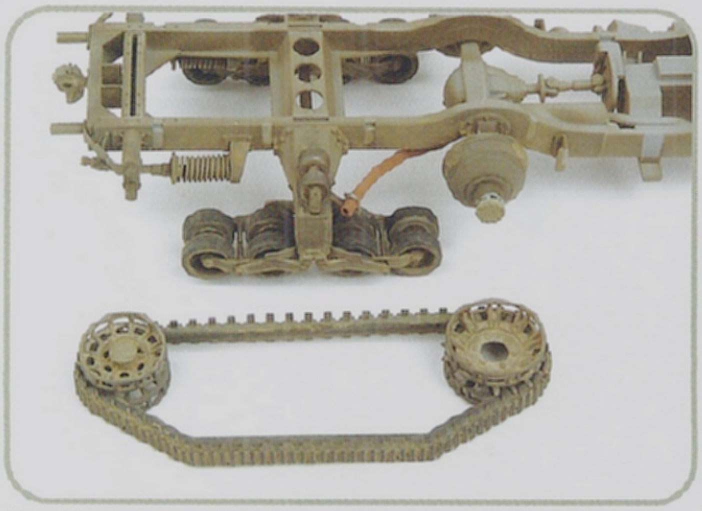




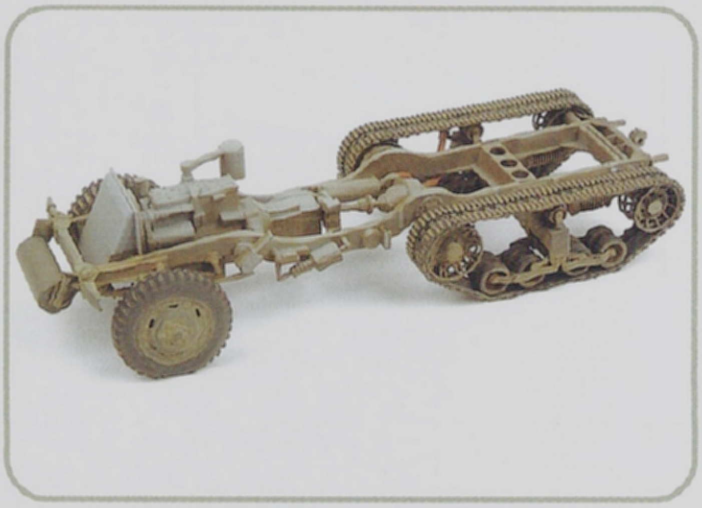
found that the bracing strut between the two bogies part A17 would not fit as it was eliptical instead of round so I replaced it with some plastic rod. I added the drain holes to either side of the bogies and made a bracket to hold the end of the exhaust pipe. The tracks are also cleverly designed and supplied as two havles split lengthways and I decided to leave both them and the sprocket and idler as separate parts to help ease painting them. The more I looked at the two suspension springs the less happy I was with the solid moulded kit versions so I cut them away and replaced them with new copper wire versions.

Its is about this time that you really need to make a firm decision about which version you build with the option of the bow roller for the M2 and the winch for the M2A1. I took care to hide the joint seam on the two halves of the roller and I replaced the spring mechanism on the mounting brackets with my own springs made from copper wire. Moving to the cab the kit lacks nothing apart from the driver's pedals which I added from plastic card although they are largely invisible on the finished model so you can comfortably skip this addidion. On the outside faces of the vehicle the armour plate is bolted together with domed screw head fixings. The kit shows these as just domed heads without the slot, an ommission that is quite noticeable but easily corrected. I used a Micro Chisel to indent a slot into each rivet head making for a quick and effective fix. Another small improvement was to remove the moulded tie down eyes from the hull and replace them with ABER photoetched versions.

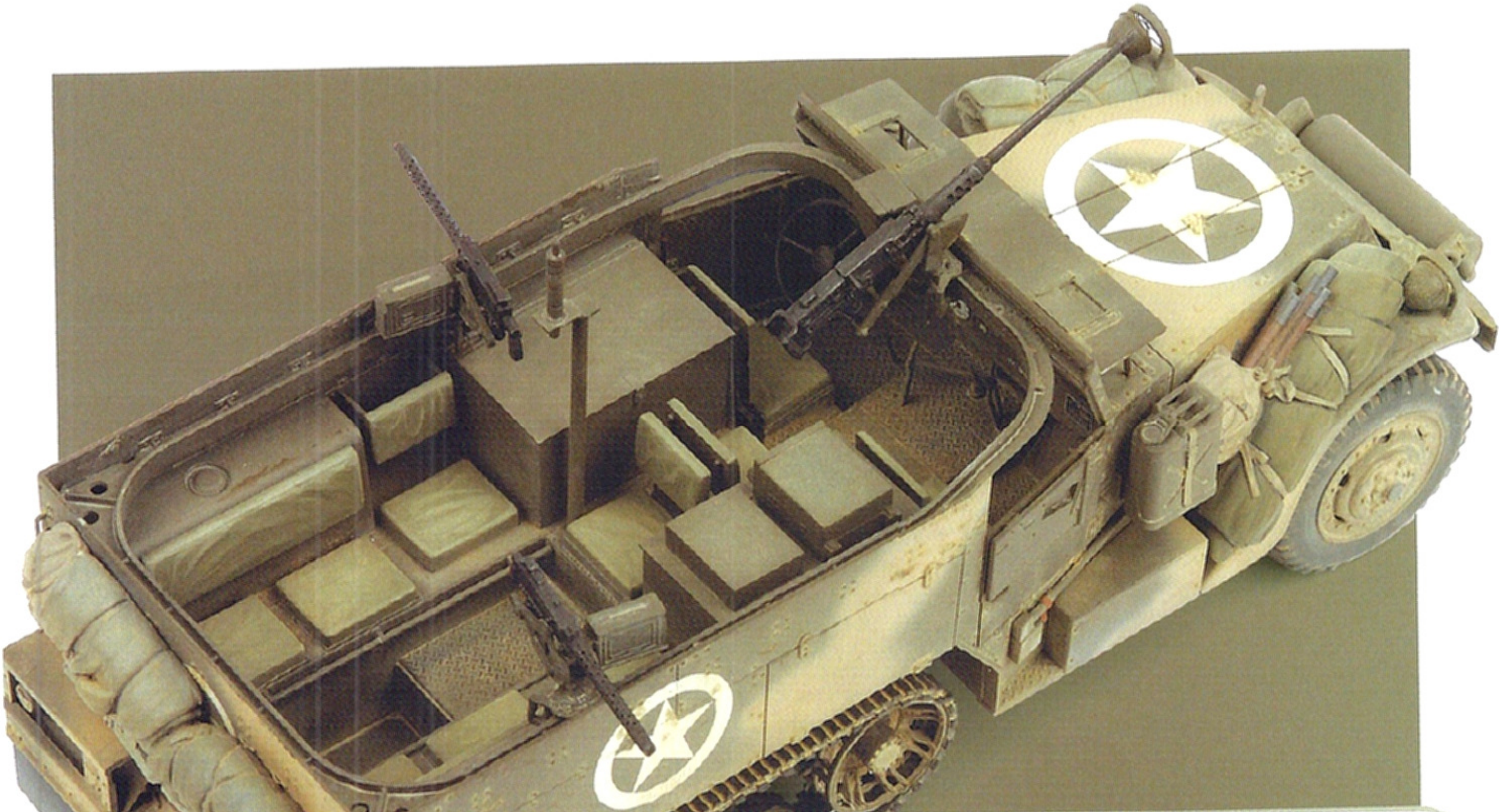
The assembly of the hull is simple and the fit generally good. I decided to join the cab and crew compartments and leave the whole upper hull separate to help fitting the tracks after painting. I found that some adjustment was necessary to get the mounting brackets for the crew compartment to fit the chassis as they are fractionally too narrow. The kit inlcudes a choice of opened or closed radiator grille and I have to admit to choosing the closed version over the opened with its photoetched louvres simply because of the difficulties of applying the national markings over the open version. Dragon supply some really excellent weapons with the kit but I drilled out the holes on the sleeve of the .50 Cal and for the .30 Cal guns I replaced the barrels with new ABER versions with hollow sleeves which proved to be quite painless to assemble.

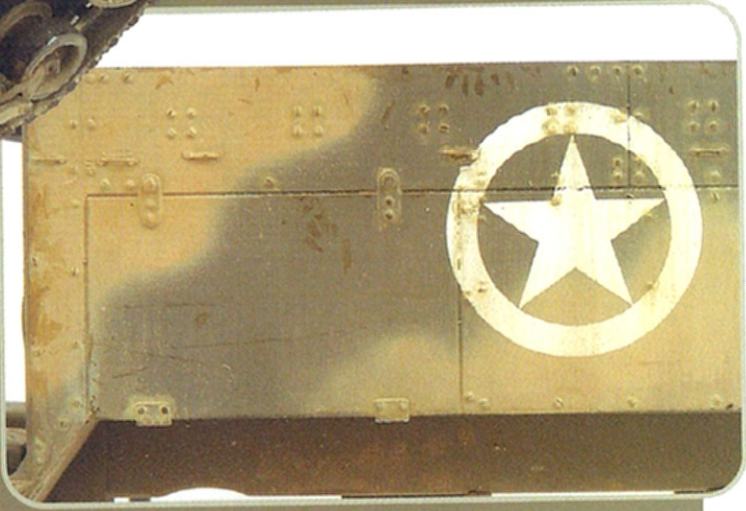


I found the best way to fit the tracks was to glue the sprocket and idler in place before persuading the whole assembly into place.

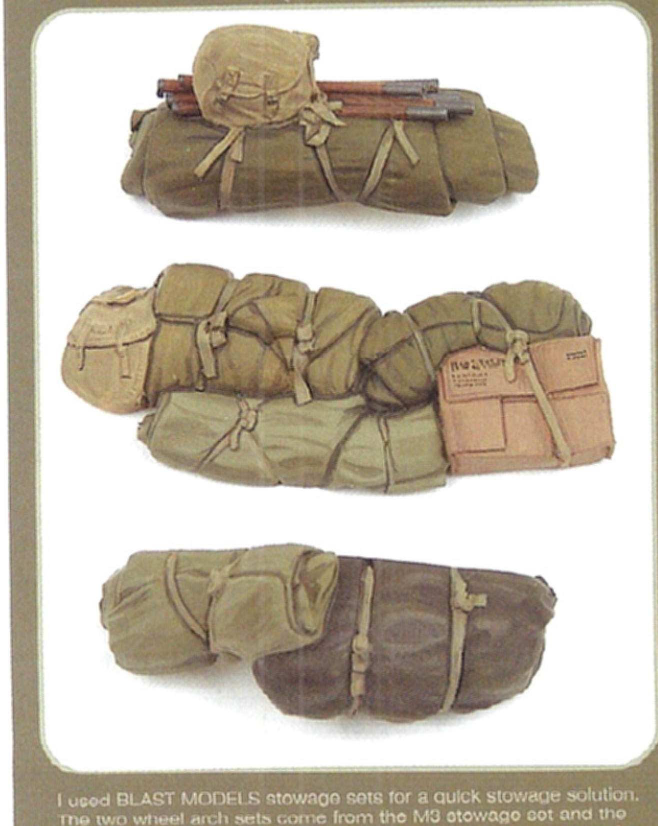


This method requires you to 'stretch' the tracks over the bogies but it has to be preferable to trying to paint them in situ.

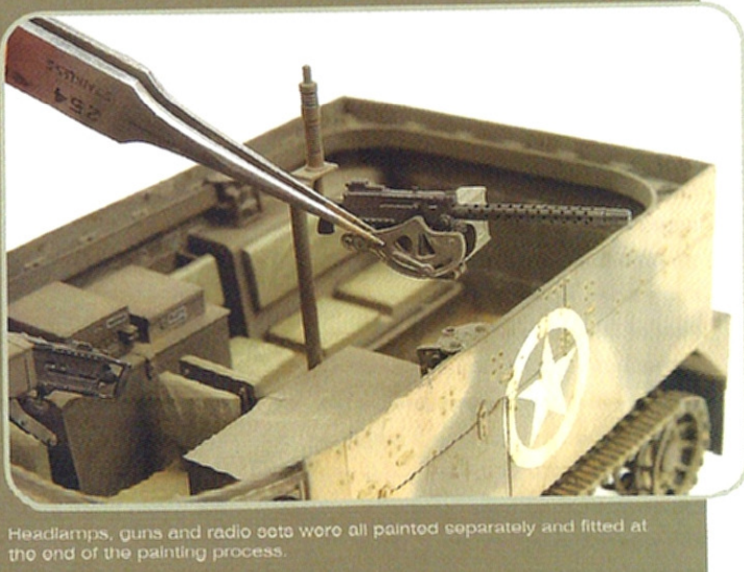




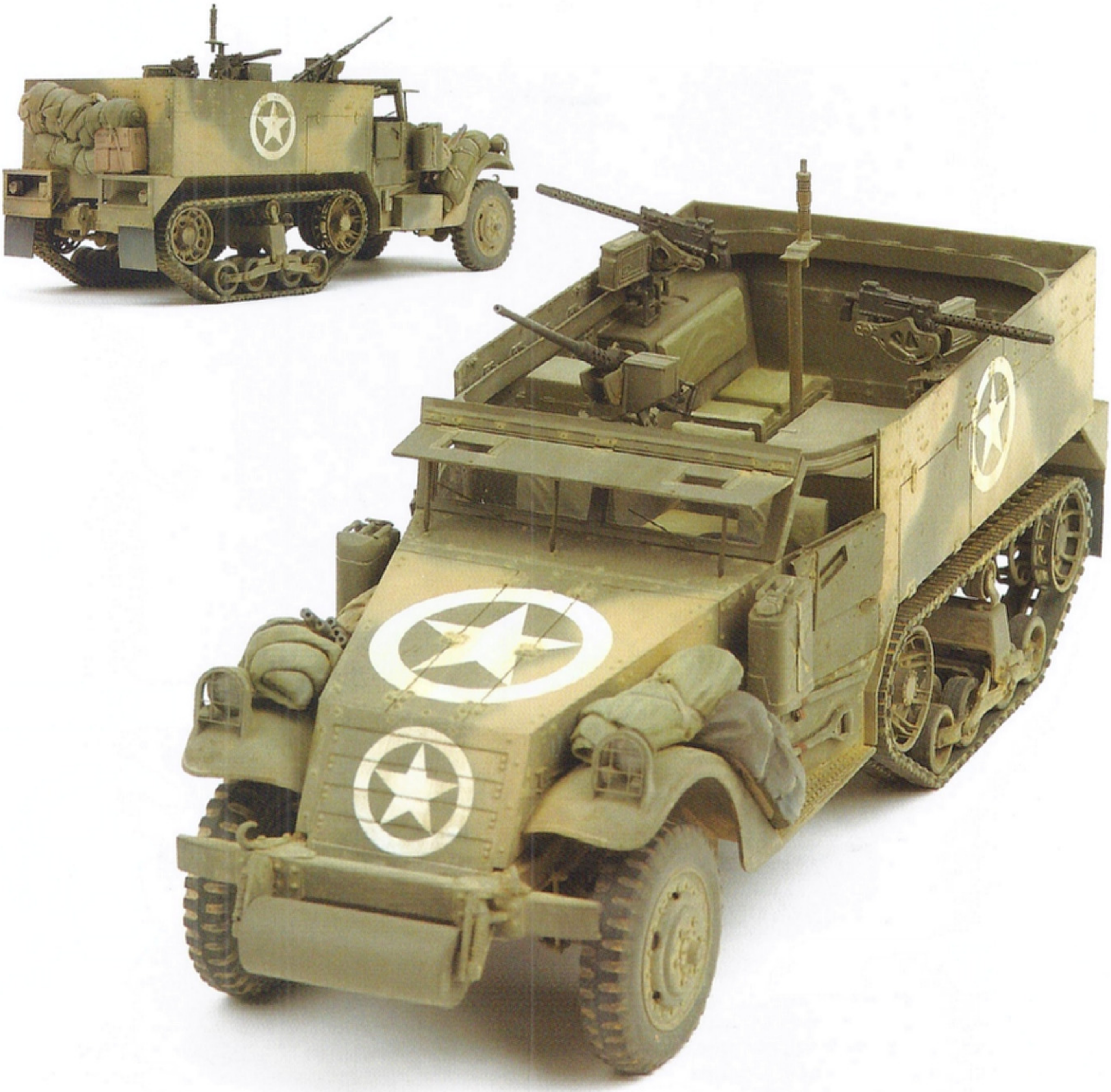
Handprints, scuffs and scrapes are added using the pure underlying base colours.



I used BLAST MODELS stowage sets for a quick stowage solution. The two wheel arch sets come from the M3 stowage set and the rear section comes from the M10 set. The stowage was painted mostly using VALLEJO acrylics.



Headlamps, guns and radio sets were all painted separately and fitted at the end of the painting process.



Painting

Keen to move away from an overall Olive Drab finish I plumped for an Italian or Scicilian scheme with oversprayed sand as depicted on the box art. This would also give me the perfect excuse for a nice dusty finish. I gave the whole model a base coat of Tamiya acrylics followed by a topcoat of Vallejo Olive Drab which is a really good shade in my opinion. I did spend some time applying a lightened shade of Olive Drab to the centre of the panels but by the time I applied the sand this was not really apparent. Next, something of a first for me as I applied the markings using some recently released Archer dry rub decals. These proved to be remarkably opaque and the application went smoothly with the exception of some of the raised details where I retoutched any flaws with white paint. I will refer you to the photo sequence for the progression of the weathering process.

I painted the tracks in a faded black before adding some polished metal finish to the track teeth area and to areas of wear on the sprocket and idler. A pastel pigment wash unified the finish of the tracks before the whole track and sprocket assembly was fitted to the chassis with a little gentle persuasion. With the tracks fitted the hull was at last glued to the chassis and I was able to fit the guns and the headlamps, both of which had been left separate to help in painting them. To finish off the vehicle I added some stowage, turning to a slection of Blast Models sets to provide a quick solution as they just had to be painted and fitted.

Looking back over the build I found it an enjoyable project with the quality of moulding and fit extremely high. Certainly there were some oversights like the screw heads but I would expect to see these corrected on future releases and it is great to see Dragon tackling subjects like the M2.

M2 History

The U.S. M2 and M2A1 Halftrack Vehicles

Described by David Doyle

The collection of US halftracks can be quiet challenging, with many varieties having been built. Perhaps more so than any other type, the halftrack was frequently modified into different configurations, some even before leaving the factory. Many halftracks were built as one model, only to be converted into another before being shipped to using troops, and then often was either field or depot rebuilt into another form. Extensive remanufacturing programs in the U.S. confused things even more. It is possible for a given vehicle to have had 3 or more model numbers during its service life.

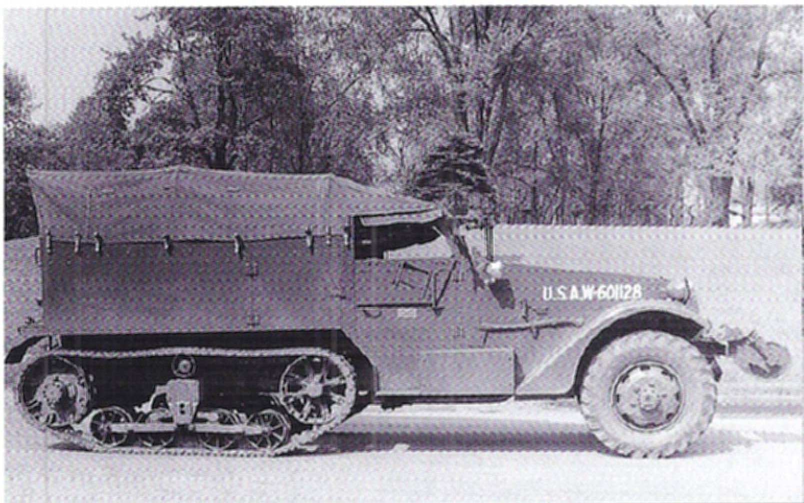
The M2 halftrack, as well as the M3 halftrack, had its roots in the T14 halftrack. The White Motor Company of Cleveland built the T14 in early 1940. In September of the same year, the M2 was standardized. Concurrently the Diamond T Motor Car Co developed a version with the body and frame lengthened 10 inches to the rear, and it became the M3. Both were to be powered by the White 160A engine.

In an unusually cooperative move, representatives from three firms, White, Diamond T and the Autocar Company as well as the Ordnance Department formed the Half-track Engineering Committee. Since the demand for halftracks was greater than any one builder could meet, this committee was charged with not only designing halftracks, but also ensuring that regardless of manufacturer, all parts except armor plate, were interchangeable.

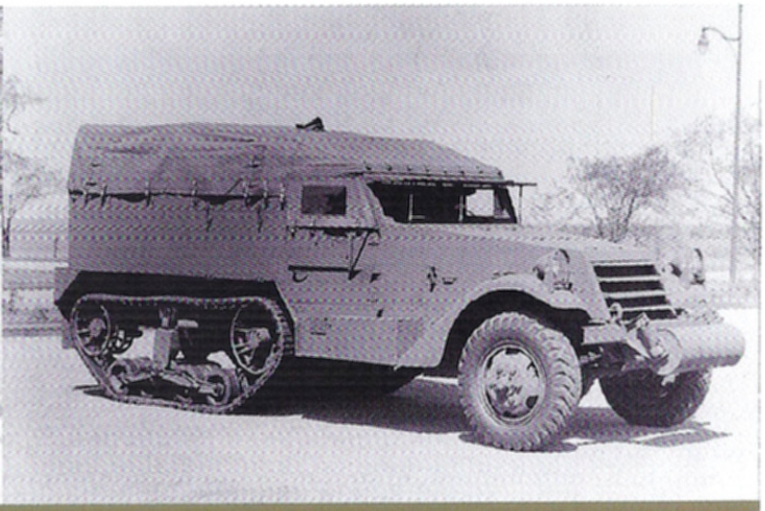
The M2

In May of 1941 White delivered 62 M2s, the first of 11415 to be built by White and Autocar. The M2s were armed with a M2 heavy barrel .50 caliber machine gun, and two water-cooled .30 caliber M1917A1 machine guns. These weapons were mounted via trolleys on a skate rail that surrounded the interior of the vehicle. In later production the pair of water-cooled weapons gave way to a single air-cooled M1919A4 .30 caliber machine gun. Externally, on the rear of the body, tripods were stored so these weapons could be dismounted from the vehicle and used on the ground.

The M2 had a bottom hinged door just behind the driver's door, and another one in a similar location on the other side of the vehicle. These doors provided access to large ammunition storage compartments. These compartments were also accessible from inside the halftrack by opening the top of the compartments. These compartments were integral with the M2's role as an artillery prime mover. Two thirty-gallon fuel tanks were mounted in the rear of the crew compartment, one on either side. Seats in the rear compartment provided seating for 8. The M2s were provided with bows and canvas to protect the crew from the weather, but these were not popular because they hindered the use of the weapons.



The prototype for the M2 was the T14, built by the White Motor Company in Cleveland, Ohio. Powered by a White Model 20A engine, the vehicle was driven from Cleveland to Aberdeen Proving Ground, Maryland for testing in May 1940. This vehicle had the drive sprocket at the rear and all-steel bogie wheels.



With some revision, including increased track width and relocating the drive sprocket to the front of the track, the T14 was standardized as the M2, and entered production. White began delivering the vehicles in May 1941. The face-hardened armor of the vehicle was $^1/_4$-inch thick, except on the $^1/_2$-inch thick plate over the windshield.

Here track is being fitted on the assembly line. The armor for White-produced vehicles was manufactured by the Diebold Safe and Lock Company, and was installed at the latter's facility.

The completed White chassis were fitted temporary windshields and driver's seat, then driven under their own power to the Diebold plant, some 50 miles away, where the armor was installed. Then the vehicles were driven back to the White plant for final assembly. This also served to begin breaking in the driveline of the vehicle.

The front of the M2s and M3s were fitted with either an unditching roller similar to that on the M3A1 Scout Car, or a Tulsa Model 18G 10000 pound self-recovery winch.

Unlike their German counterparts, American halftracks had their front wheels driven through the vehicles transfer case. The rear of the halftrack was driven by means of a drive sprocket at the front of the suspension. The track itself, developed by Goodrich, was made of rubber molded around steel cables with steel crosspieces with center guides attached.

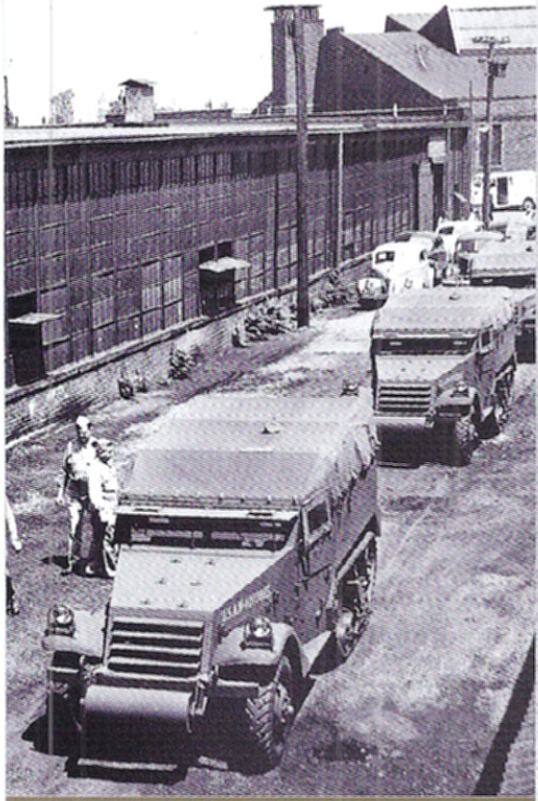
The M3

As White churned out the M2, Diamond T went about the business of building M3 personnel carriers. The first being delivered in May 1941, later White and Autocar joined in until their combined production reached 12391 vehicles.
In addition to the lack of the side storage doors of the M2, other distinguishing characteristics include a door in the rear armor, and the fact that the body extends beyond the end of the tracks. On the M2, the run of the tracks extends beyond the rear of the body. The twin fuel tanks of the M3 were moved forward, into the location occupied by the ammunition compartments on the M2. There was seating for ten in the rear of the vehicle, plus another seat between that of the driver and co-driver.

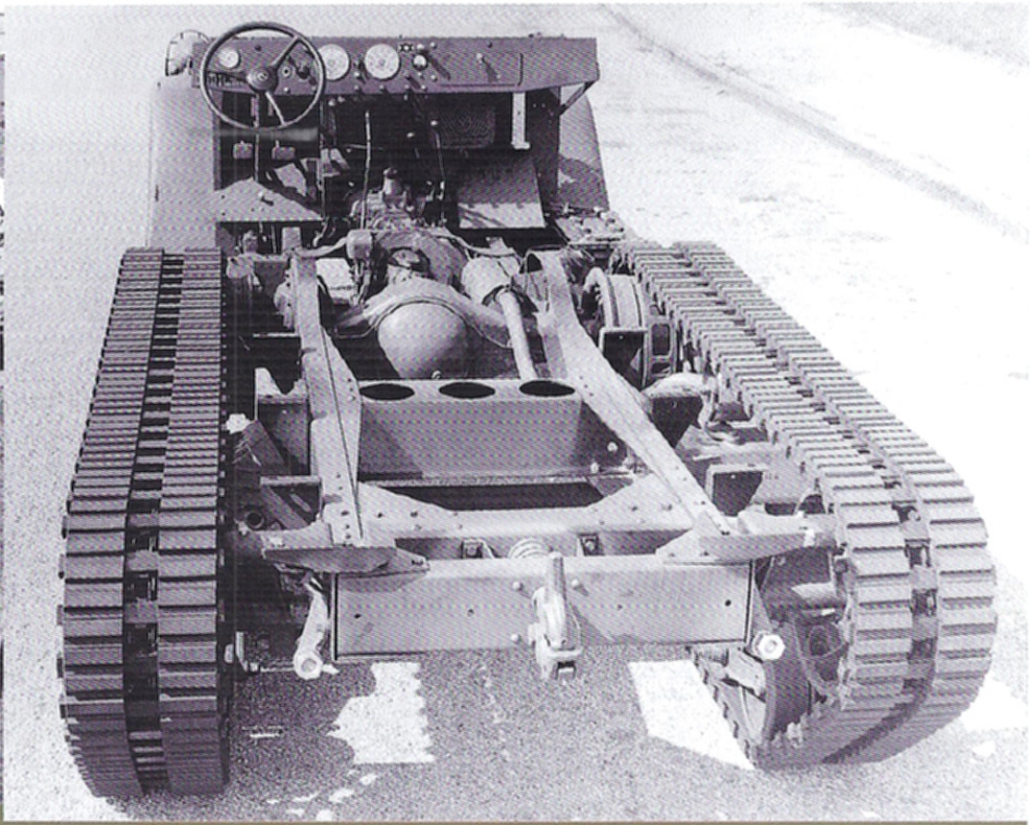
Initially, the 30 caliber machine guns were mounted to the skate rail using the M29 skate mount, while a M30 skate mount was used for the .50 caliber at front. Later production used the M35 or M35C skate mount in all positions until the advent of the M2A1.

M2A1

In April,1942 the Ordnance Committee recommended that the skate rail on the M2 be replaced with a ring mount. This recommendation was approved on May 6 of the same year. The new ring mount, the M49, not only replaced the M2s skate rail, but also the pedestal mount of the M3 and the International Harvester M5. The new vehicles were classified M2A1, and M3A1 and M5A1. In addition to the ring mount and its M2HB Browning, there was a pintle socket installed on each side and the vehicle rear for installation of the single M1919A4 air-cooled .30 caliber machine gun. There were not as many of the A1



White worked diligently to deliver the M2 halftrack, as well as Scout Cars, from which the halftrack was derived. In all its documentation, referred to the M2 as a "half-trac" – without the "k". This scene at White's Cleveland plant shows the vehicles ready for acceptance.



Mechanically, the M2 as well as the other halftracks in the SNL G-102 group were merely trucks, with the track bands being driven by the rear "wheels" – actually midships-mounted drive sprockets.

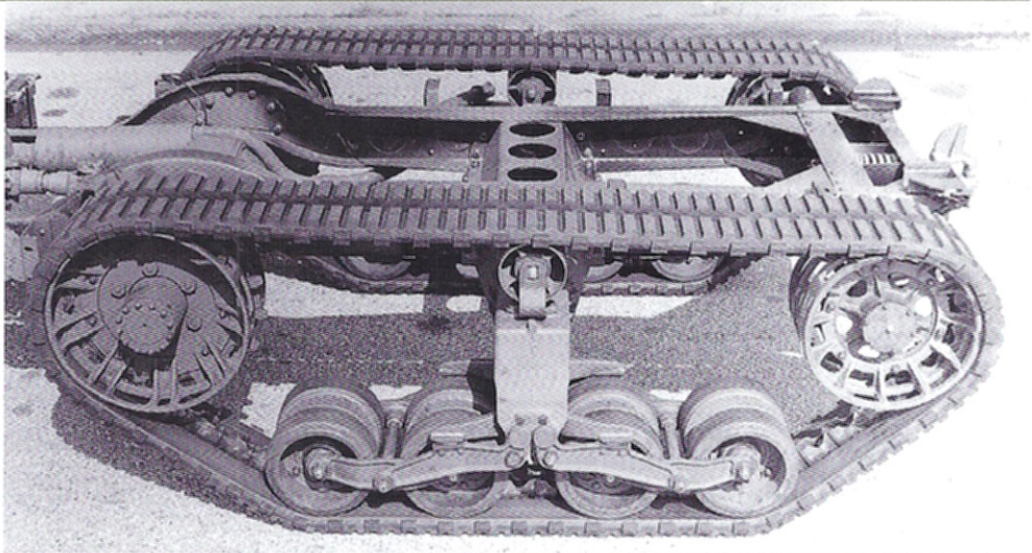
vehicles built as there were their predecessors, only 1643 M2A1s were built.

Other changes during production

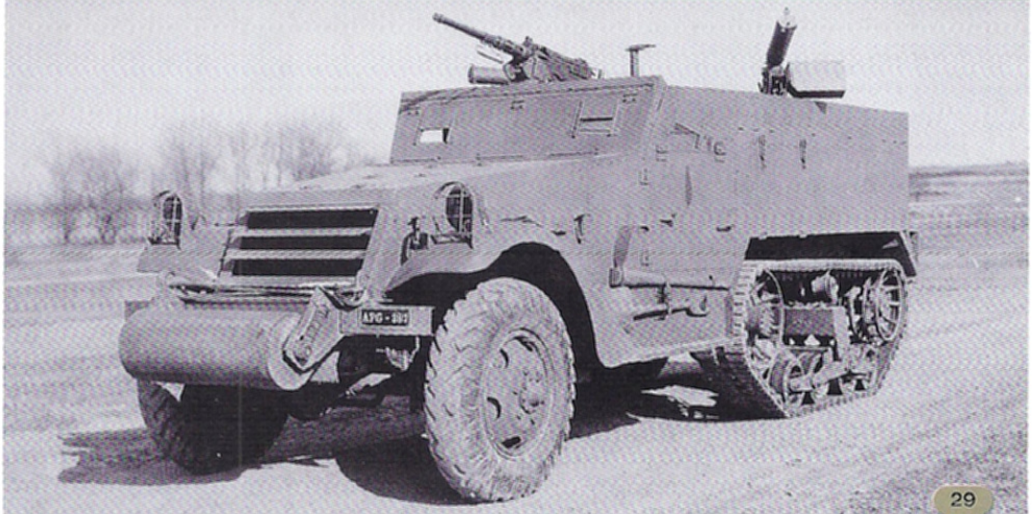
In addition to the obvious change in machine gun mounting mentioned above, numerous other changes were made during the production of these vehicles. The earliest of the M2 vehicles used what looked like truck wheels. These were split rims, which while looking similar are in fact very different from split-ring rims used on later military vehicles. The locking ring is of the split rim of the M2 (and early M3 half-track, and early M3 Scout Car) is a continuous circle of steel. Six somewhat oval-shaped scalloped cutouts are present on these rims.

On these rims were mounted 8.25-20 tires with a chevron or V-tread pattern. These ten-ply directional tires were made by Goodyear, and known as "Super Grip, Heavy Duty, Truck and Bus, Balloon" tires. These tires were fitted with bullet-resisting self-sealing inner tubes...the thick tubes alone tip the scales at 65 pounds each!

The construction of the V-tread pattern tires is such that even with absolutely no

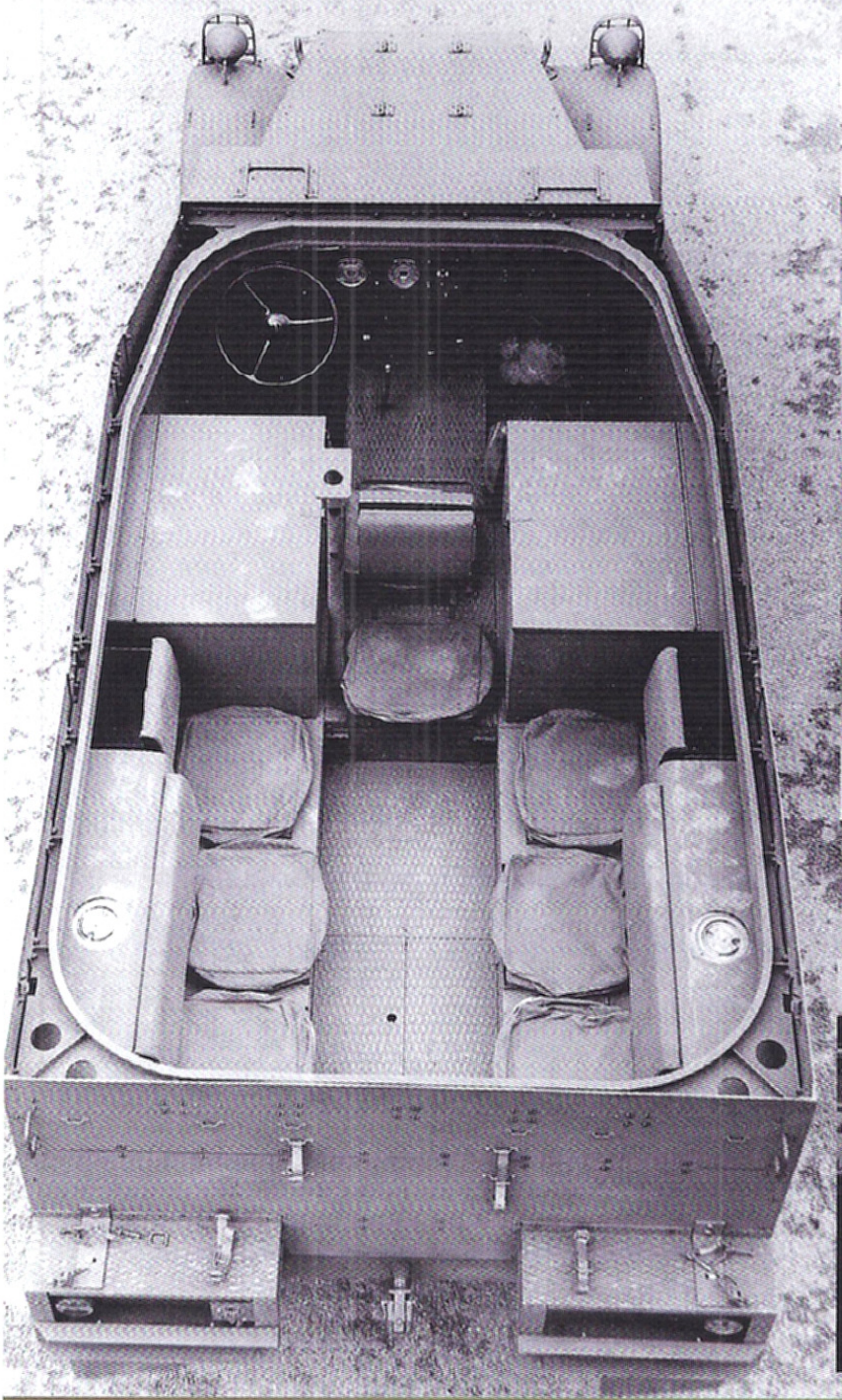


This type of rear suspension was used prior to September 1942. Also shown to good advantage are the body mounting points.

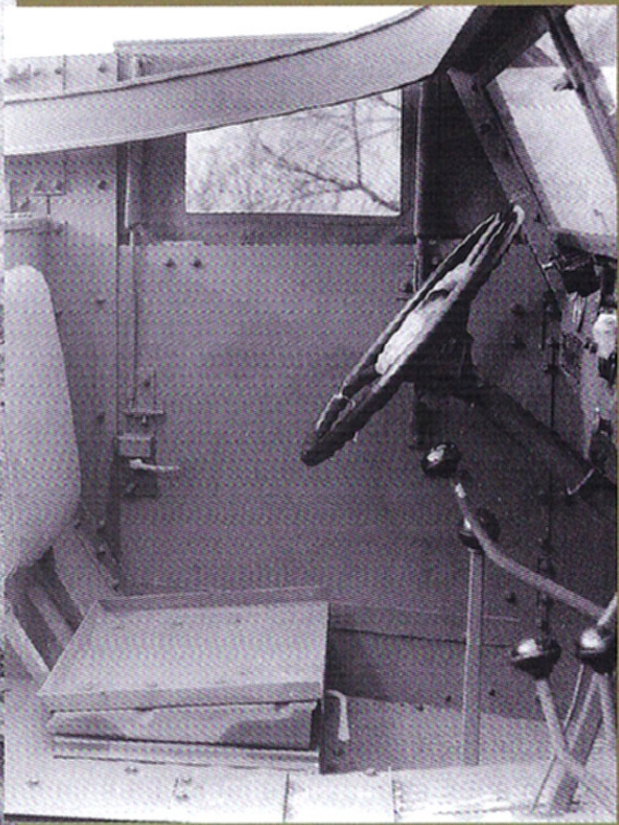


This 9 April 1941 photograph shows the pilot M2 during testing at Aberdeen Proving Ground. Notice the Firestone tread pattern tires on the front axle. Photographic evidence suggests that only the initial

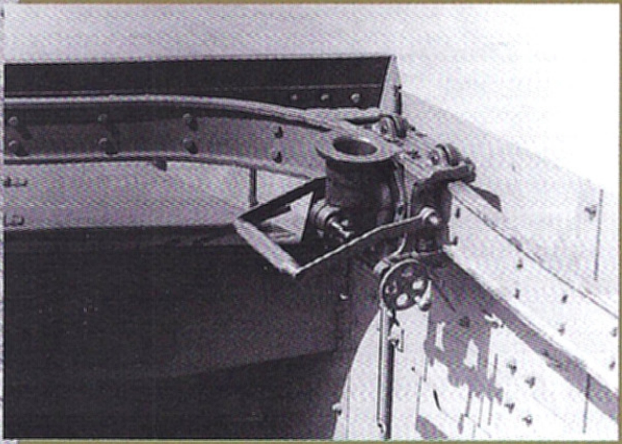
This overhead view of an early M2 illustrates the gussets used to brace the rear corners of the skate rail on these early vehicles. Also visible is the post that supported the radio antenna near the center of the passenger compartment, as well as the fuel fillers.



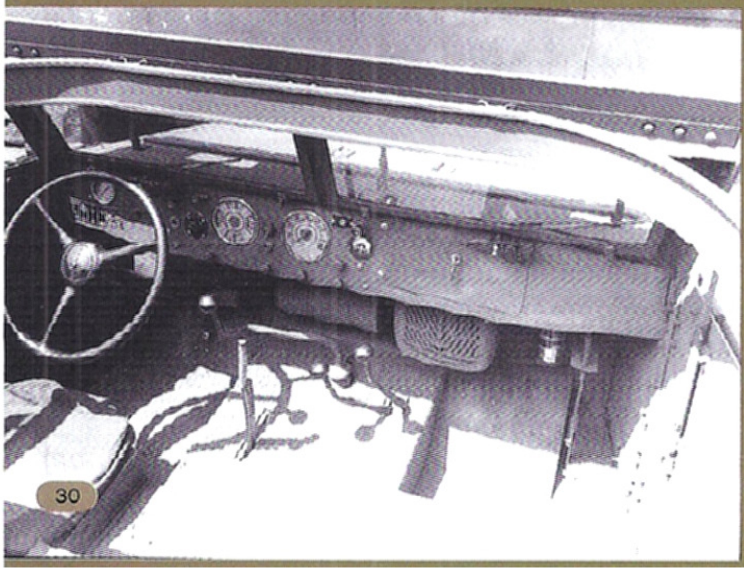
The driver's compartment of an M2, viewed from the opposite side, with the seat cushion removed. The upper driver's door armor has been lowered, and a canvas upper door installed. Notice the position of the skate rail, and how easy it is to hit it when entering or exiting the vehicle. The lever furthest from the camera operates the power take off driving the winch – hence is not present on all vehicles.



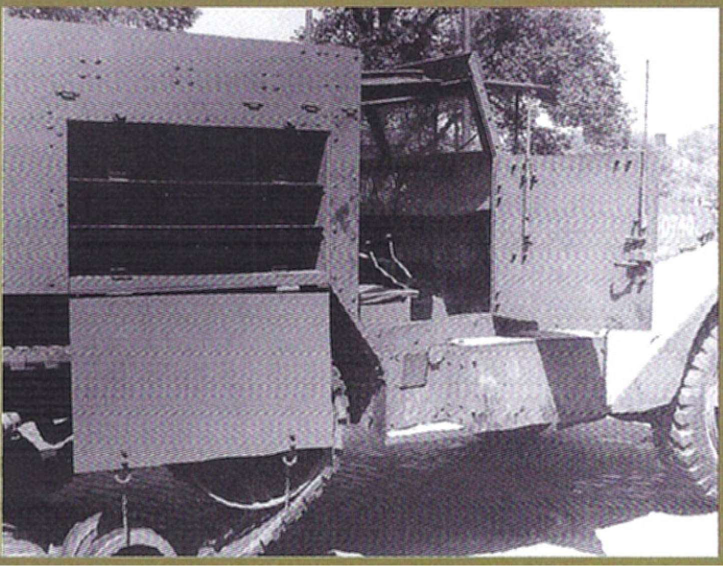
The D36961 Pintle Socket and Carriage Assembly, shown here, was used on all M2 halftrack vehicles until the advent of the M2A1. The handwheel visible was used to return the pintle to a vertical plane even if the carriage was in a canted position, such as would be the case were it on the sloping portion of the skate rail, as it is in this photo.

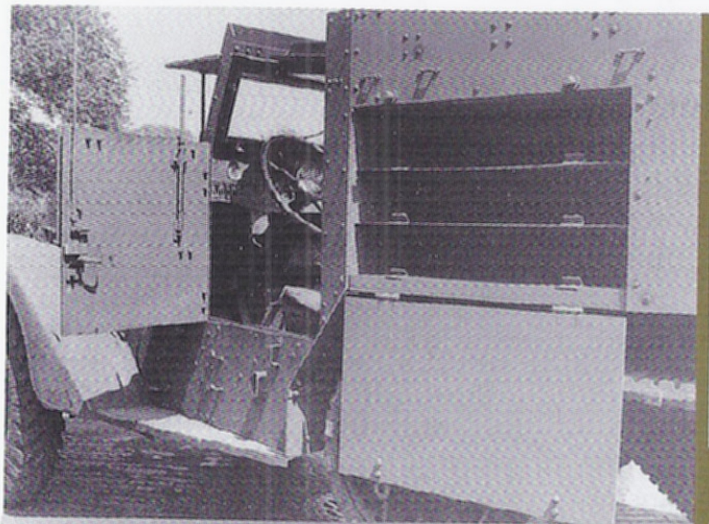


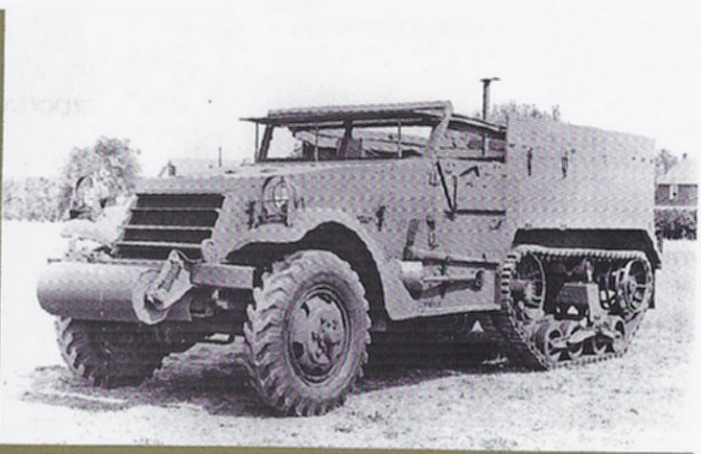
The driver's area of an early M2. To the left of the steering column is a tachometer, and to the right, an electric brake controller – befitting its prime mover design.



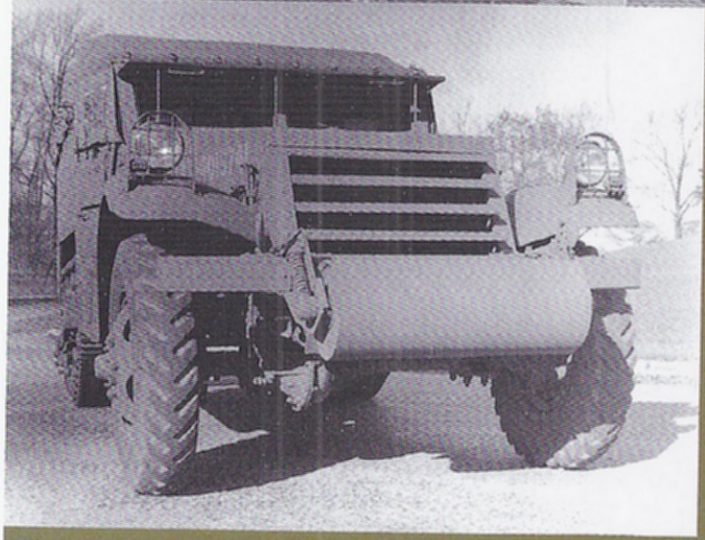
The passenger's side ammunition stowage compartment, in the open position, showing dividers. Visible through the open codriver's door is the heater core.



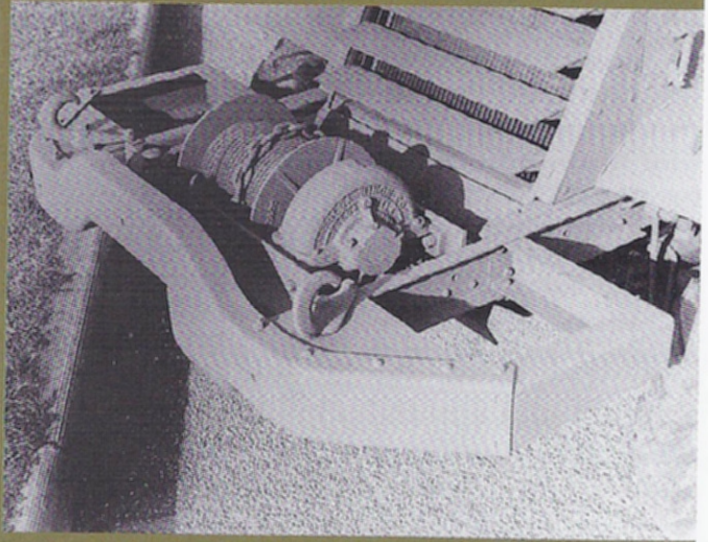




This M2, photographed in June 1941, has chevron tread pattern tires with bullet-resisting self-sealing inner tubes.



Many of the halftracks were equipped with an unditching roller. The roller worked to prevent the front bumper from digging in when at too severe an angle of approach. Its contact would lift the front wheels.



Those halftracks not equipped with a roller instead were fitted with a Tulsa Model 18G winch with 10,000-pound capacity. The winch was driven via a power take off.

air in the tube, the sidewall of the tire mounted on the halftrack, barely bulged. Later, the halftracks began to be fitted with what is commonly referred to as the Combat Rim. This is recognized by the 18 bolts around its circumference. The non-directional tires mounted on these rims were not nearly as robust as the chevron tread tires. The design of these rims was such that when the tire is mounted a steel band was sandwiched between the tire beads, which held them in place in the event the tire lost pressure.

In April 1942 heavier bogies suspension springs began to be used. The heavier springs were also to be fitted to vehicles already in the field per Modification Work Order (MWO) G102-W23 and sometime between July and September 1942 the cooling fan was changed from six-blades to five. At about the same time the fuel filter bowl was changed from glass to metal.

On July 20, 1942 the Office, Chief of Ordnance issued a directive requiring that body hand grips be installed. These were to help the passengers and crew during cross-country operations. Grips were to be retrofitted to vehicles already in the field according to MWO G102-W22.

In August 1942 the 1 quart fire extinguisher then in use was replaced with a 2-pound unit. During the same month a dual intake air cleaner began to be used. This unit would allow air to be drawn from either the engine or driver's compartment.

An August 21 1942 directive from the Office, Chief of Ordnance called for the addition of side-mounted mine racks. A February 1943 MWO (G102-W21) directed mine racks be retrofitted to vehicles already in the field. On the M3 they ran the full length of the crew compartment while on the M2 they extended from the rear of the ammunition compartment doors to the rear of the body.

In September 1942 the idler became spring-loaded to minimize track throwing. MWO G102-W14 described a field expedient idler, but by July of the following year sufficient quantities of the factory-type were available for that style to be refitted to vehicles in the field.

In November 1942 demountable armored vehicle headlamps were standardized for all half-tracks. However, only fielded gun motor carriages were to be retrofitted with them – as there was concern about concussion damaging the fixed type. Obviously this was not a concern for prime movers or personnel carriers.

In April 1943 the Military Standard oil filter became standard on half-tracks.

Also in April 1943, the idler post began to be reinforced.

In May the idler shackle began to be equipped with an ice scraper. Also in May 1943 heavier front springs began to be used.

In July 1943 a slave outlet began to be required.

In September 1943 the incorporation of luggage racks was directed.

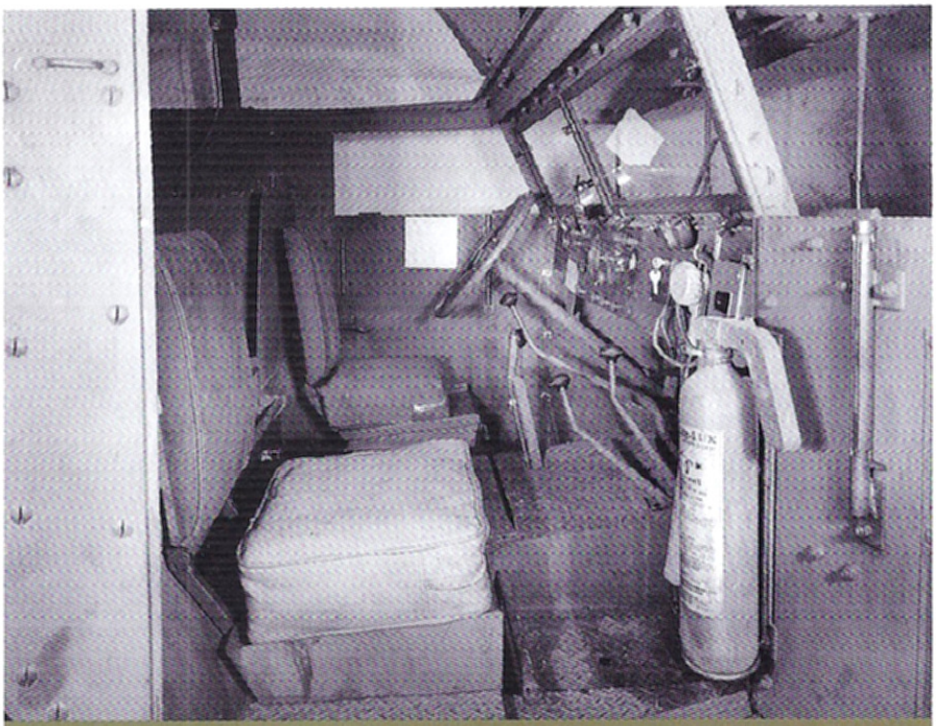
In October of 1943, the tail lamps and horn were standardized.

About February 1, 1944 Autocar, Diamond T and White were all advised that there would be no further procurement of half-track vehicles, and that immediate steps should be taken to terminate production. The final M2A1 was completed in March 1944.

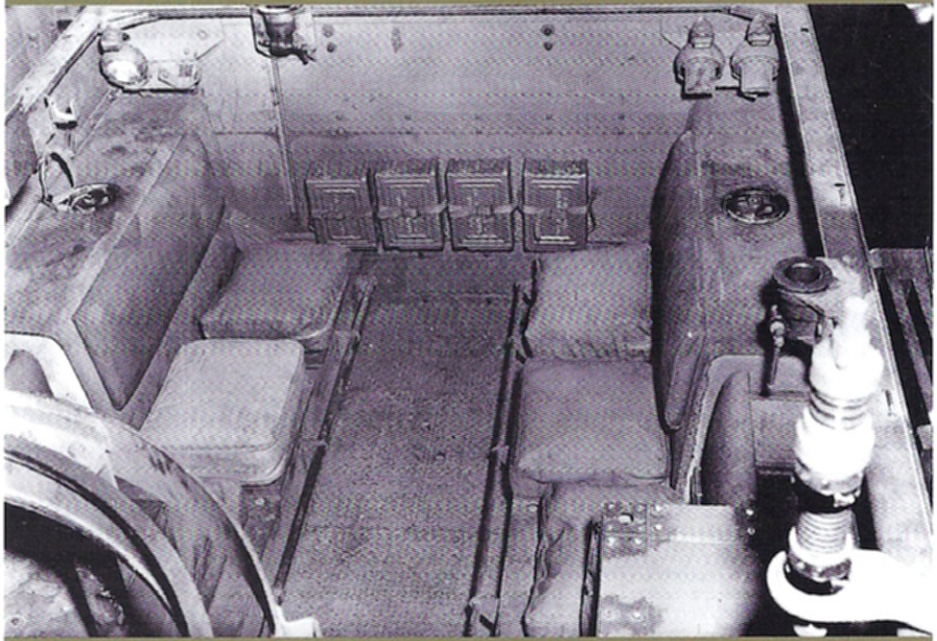
The M3A2

The M3A2 was created with idea that it would combine all the best features of both the M2A1 and M3A1. It was supposed to become the standard US halftrack, but only five pilot models, converted from M3A1s were built. As modellers well know, Tamiya produced thousands of this version though!

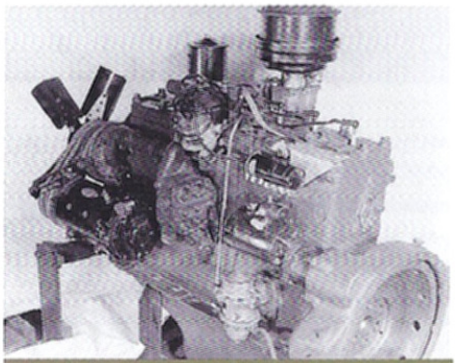
Photos courtesy of National Archives and Records Administration, the Patton Museum, ATHS, TACOM LCMC,



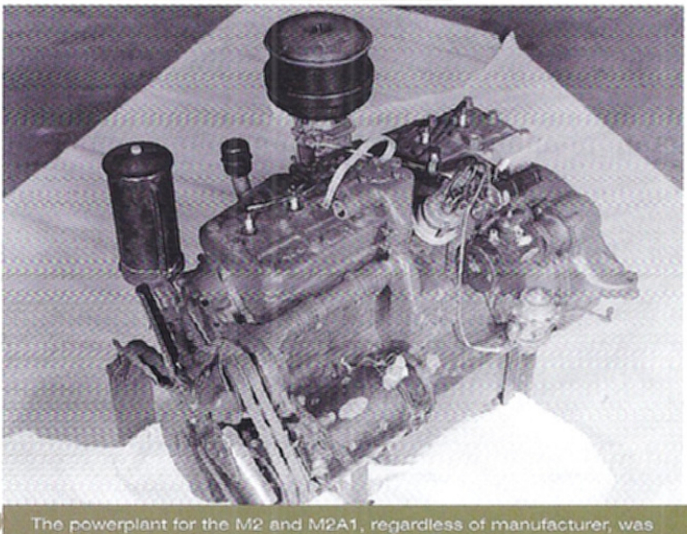
The cab interior of the M2A1 – note how entrance and egress were improved due to the deletion of the skate rail. Note also the handheld microphone hanging in front of the passenger's – and vehicle commander's – seat.



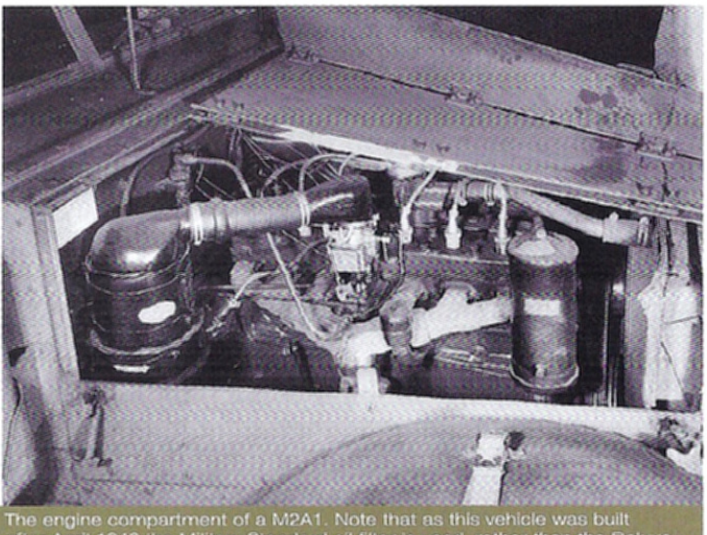
The interior of a M2A1. Of interest are the three stowed spare headlights, the stains around the fuel fillers, and the hand grips for the passengers. The latter are the steel pipes just above the floor in front of the seats. Ammo cans are strapped in position on the rear wall of the vehicle.



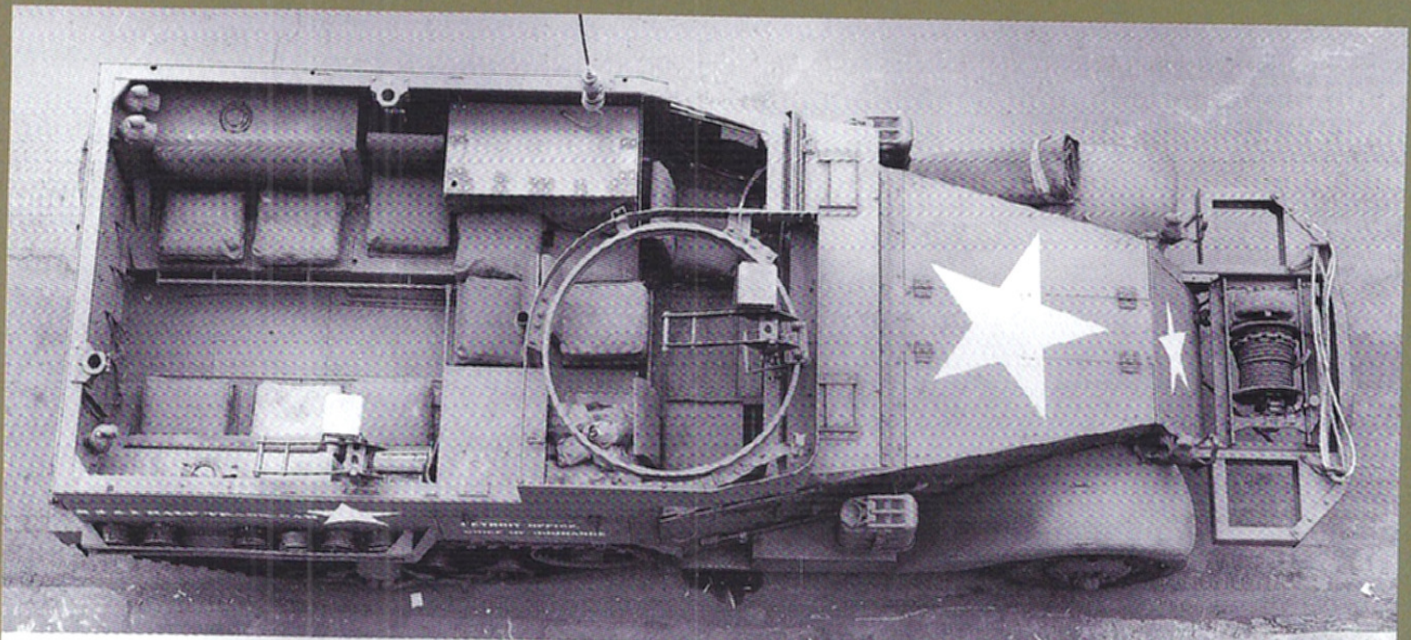
This particular engine was assembled after September 1942, as denoted by the five-bladed fan and metal fuel filter bowl. Note that the White name, just behind the ignition coil, has been highlighted.

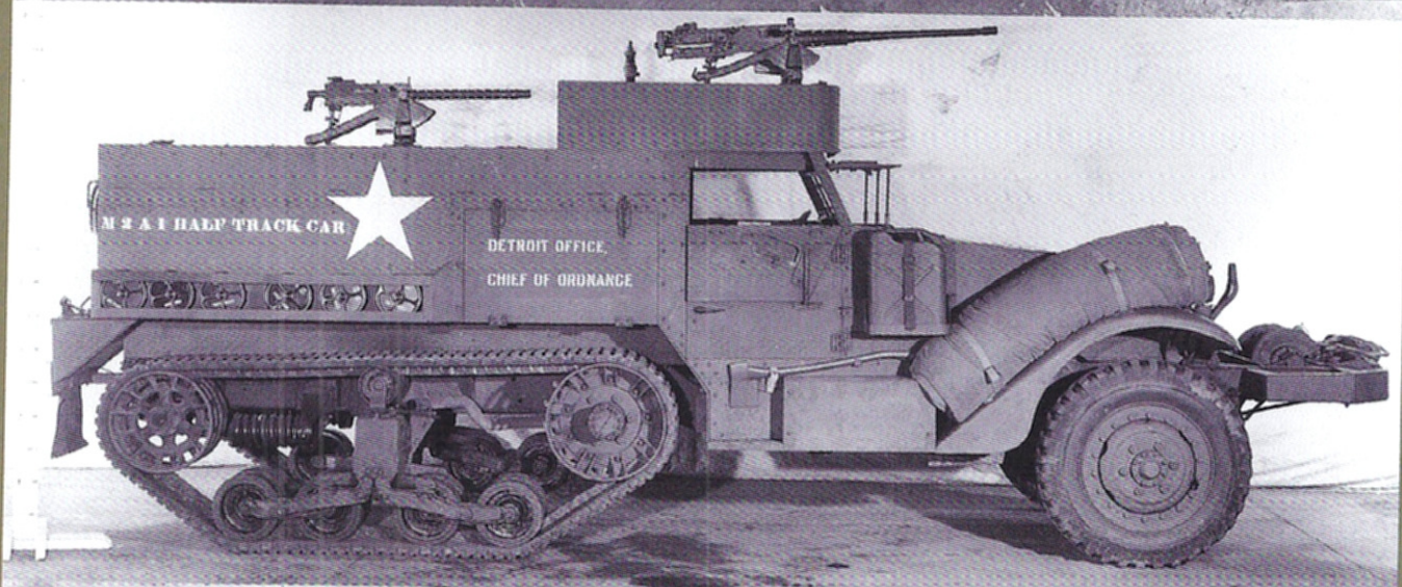


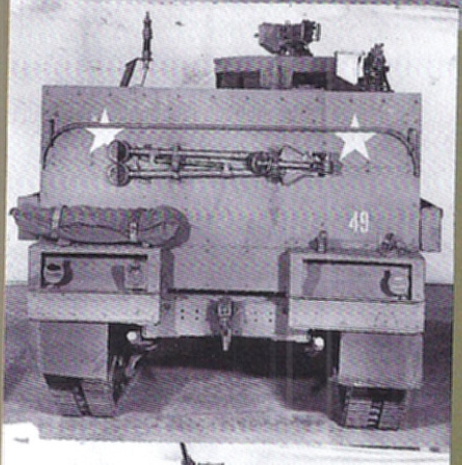
The powerplant for the M2 and M2A1, regardless of manufacturer, was the White-built 160AX six-cylinder gasoline engine.

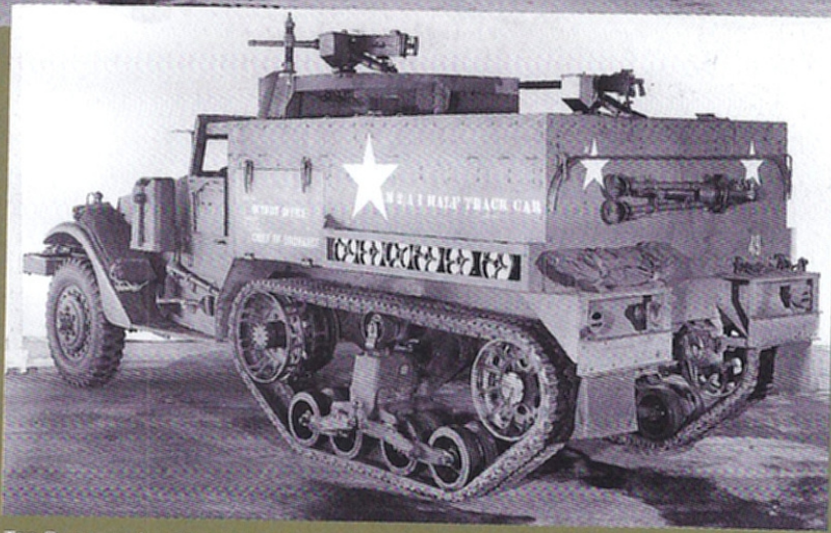


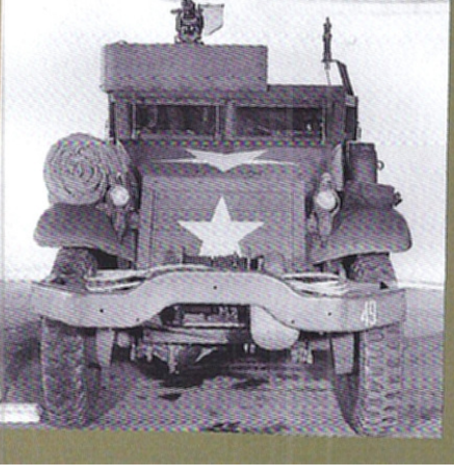
The engine compartment of a M2A1. Note that as this vehicle was built after April 1943 the Military Standard oil filter is used, rather than the Deluxe Products unit. The flexible, conical inlet, passenger compartment vent ducting is absent from this vehicle as well.











Top By comparing this overhead view of a M2A1 to the earlier overhead view of a M2, we can see how the entire interior layout was revised. The SCR-528 radio set has been installed in the stowage compartment behind the driver. The stowage compartment on the other side has been relocated to accommodate the ring mount, and fixed sockets for machine gun pintles have been installed on either side of the bed as well as at the rear.

Middle This factory-fresh M2A1 exhibits several interesting features. The spring-loaded idler, whose large coil spring is prominent in this photo, was introduced in September 1942 to minimize track throwing. The ring mount, which has an improved mounting compared to the M2E6, also has been surrounded with armor plate to protect the gunner.

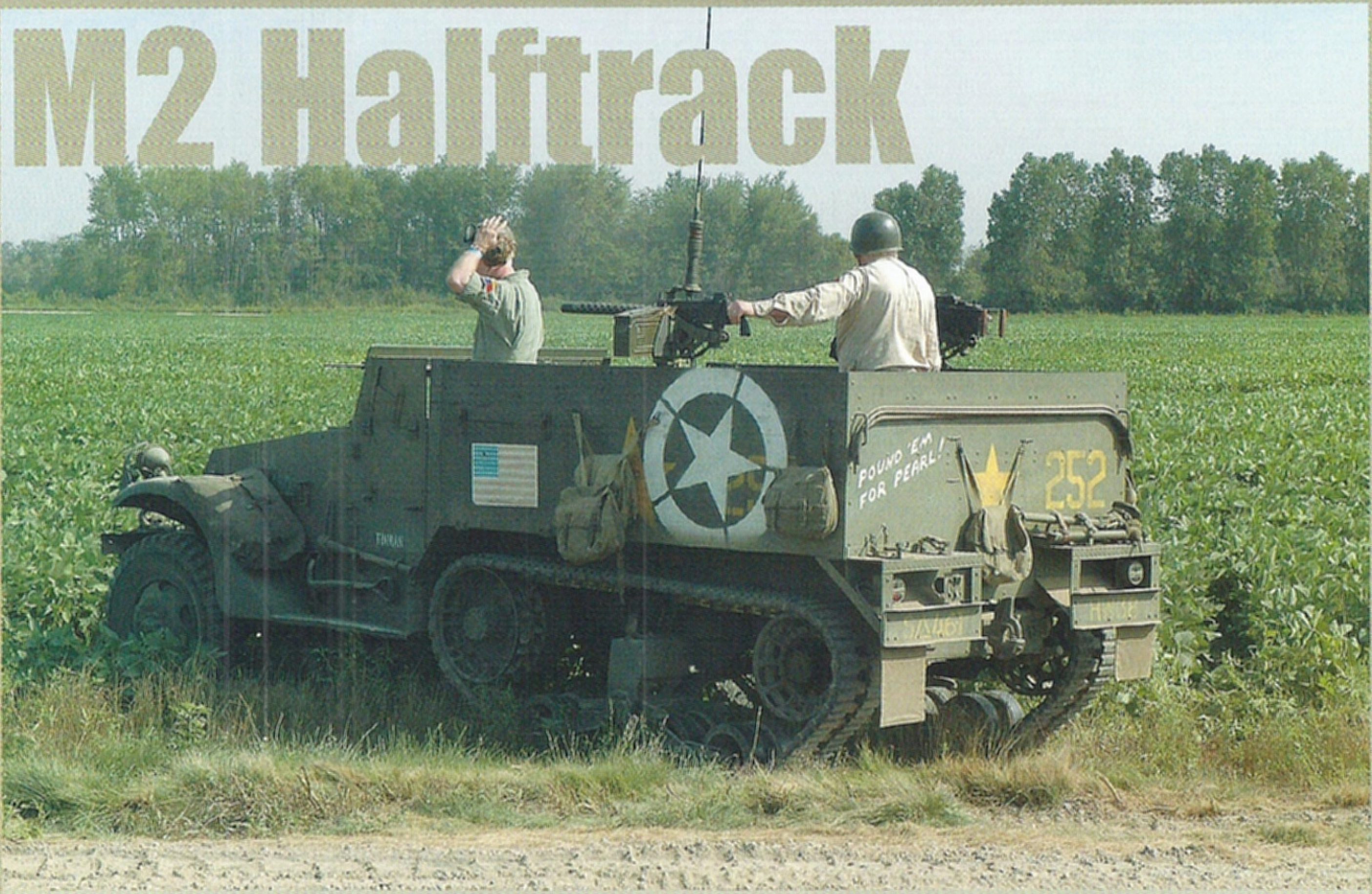
Above The bows which supported the tarp were stowed between the rear body grab handles when not in use. Also note the new position for the antenna mount, now directly behind the driver.

Left Note that the M2 .50 caliber machine gun's tripod is stowed uncovered, while the tripod for one M1919A4 .30 caliber weapon is protected by canvas, and the other tripod is missing. The trailer electrical receptacle is visible beneath the left step. The classic U.S. military-favored non-directional tread pattern is clearly seen here, as are the engine shutters in the closed position.

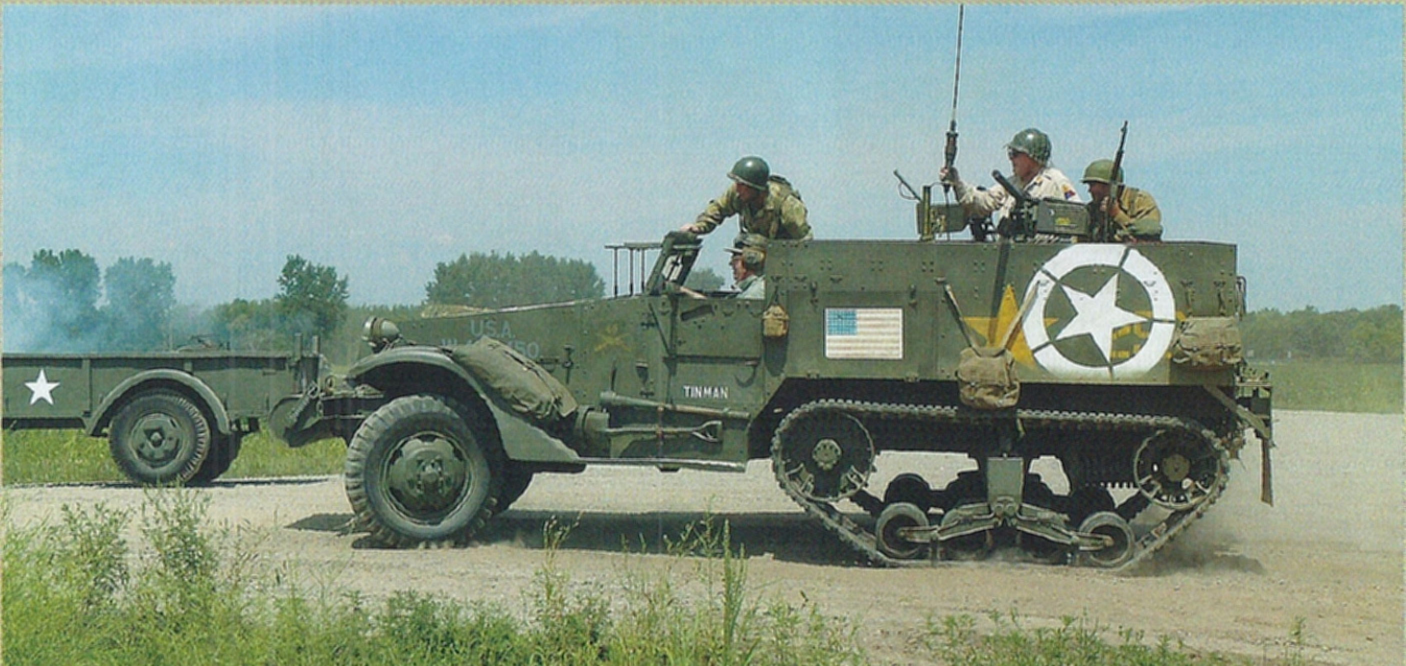
Xtreme detail

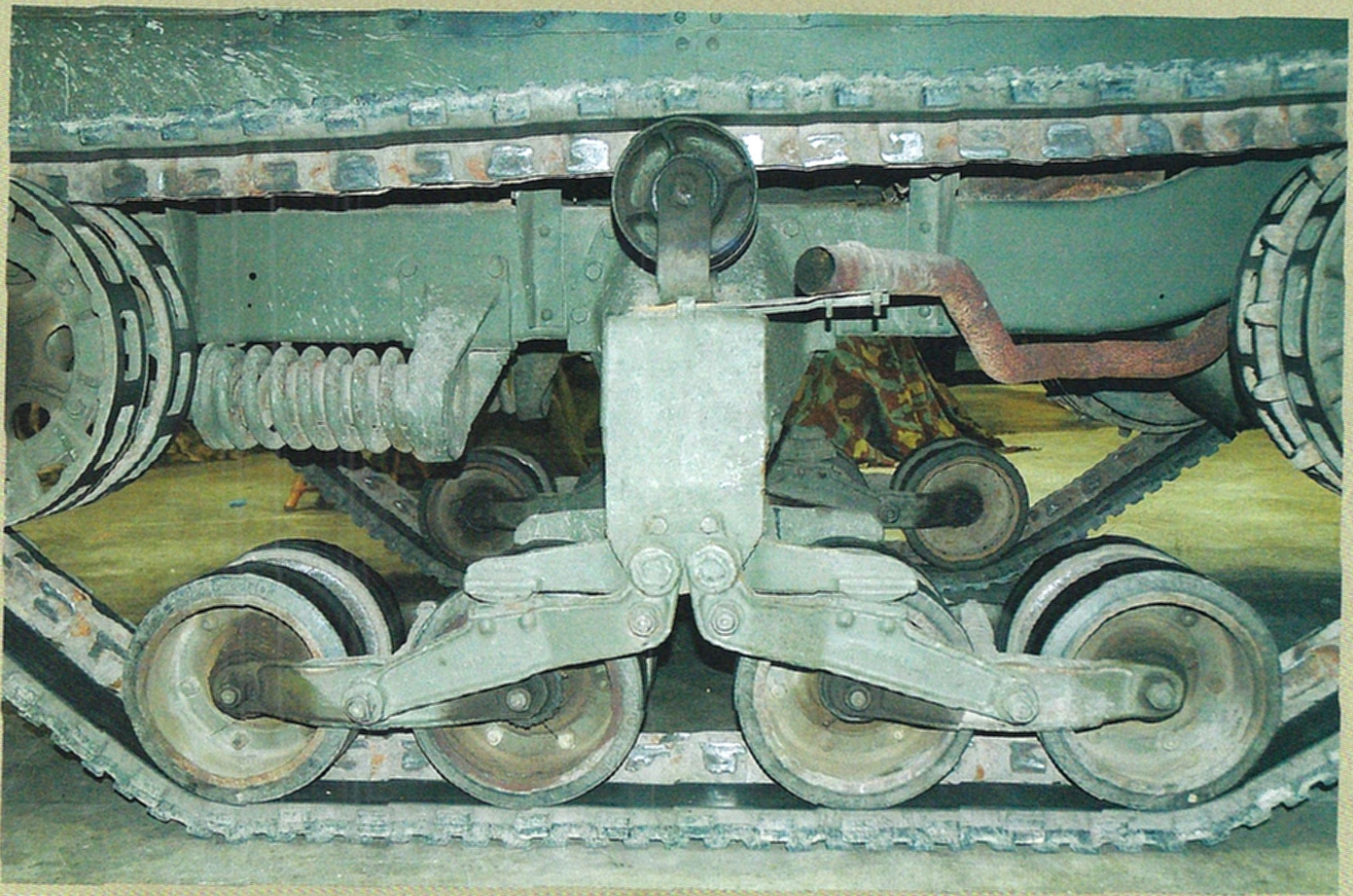
Photos by David Doyle

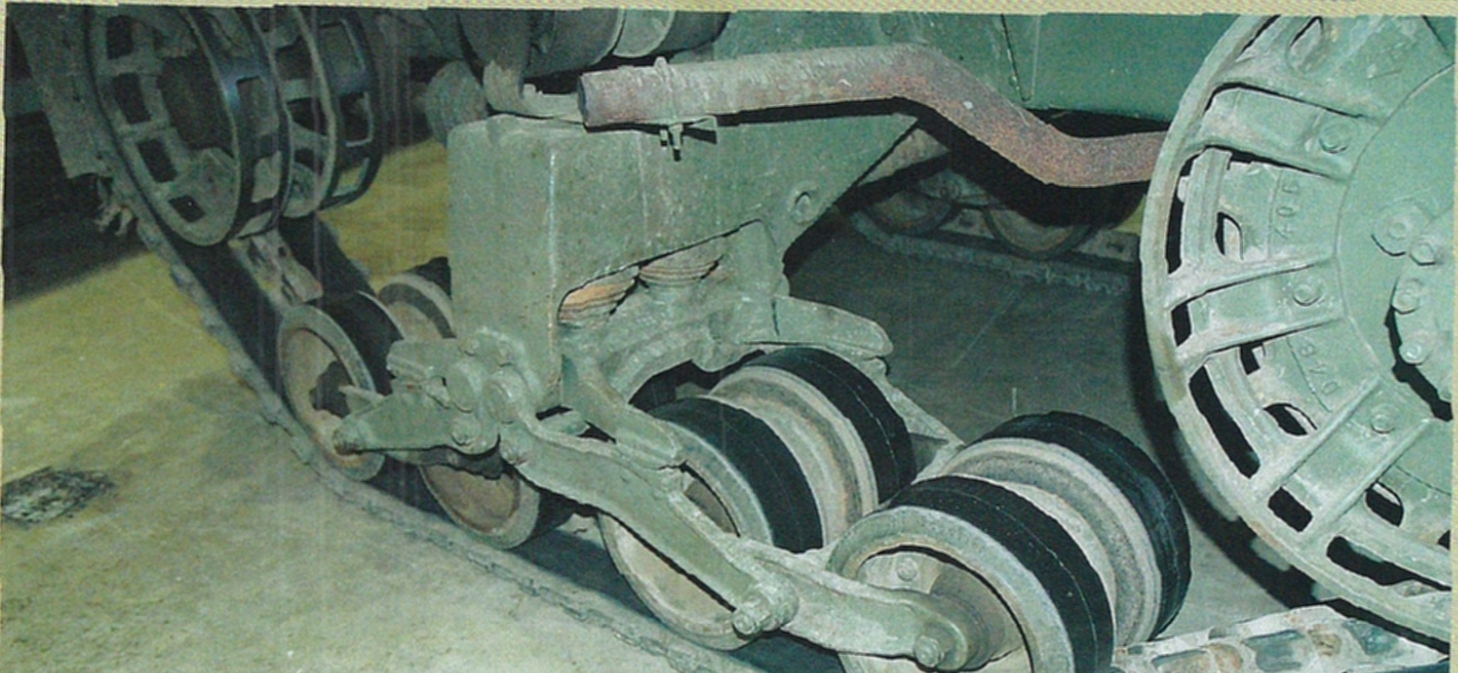
M2 Halftrack

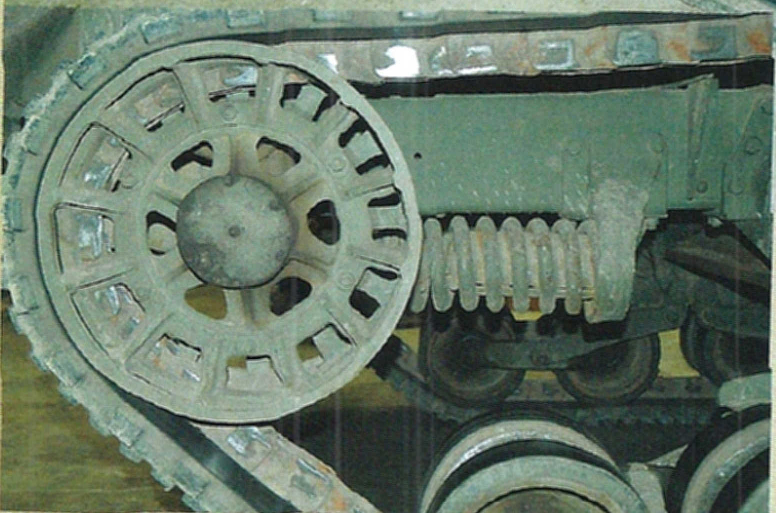

POUND 'EM FOR PEARL!
252
TINMAN

Two atmospheric shots of a preserved M2 in action showing the effects of real life weathering. This particular vehicle which features in our walkaround has had the front section of machine gun rail above the drivers compartment removed.

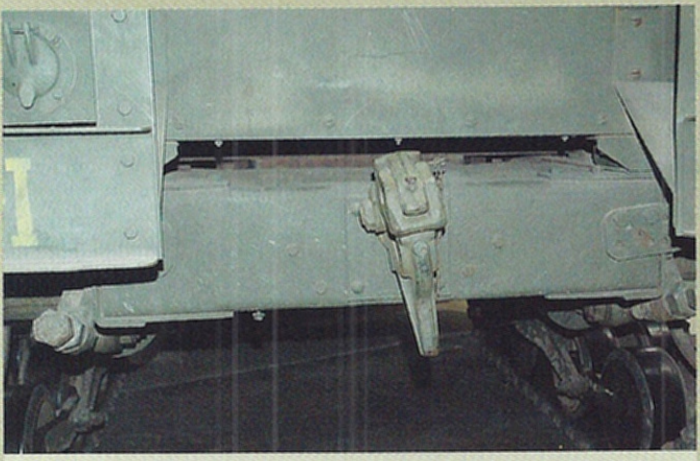




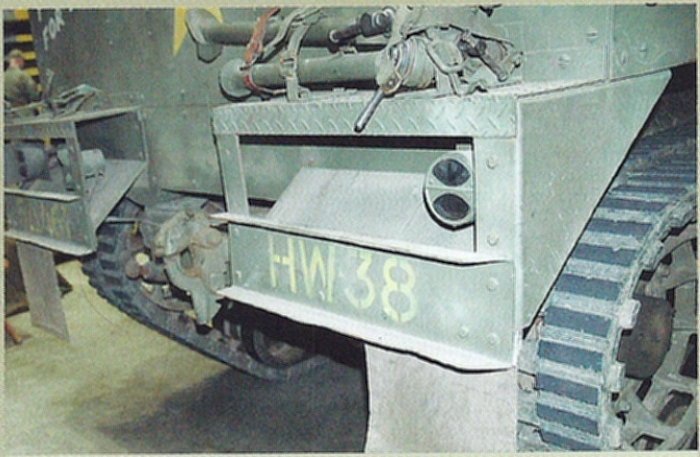




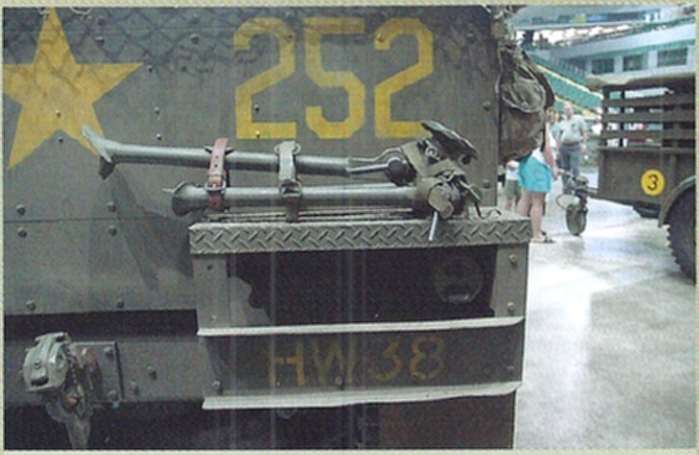
The tracked part of the suspension with real 'rubber band' tracks. Of interest here is the spoked return roller, the drain hole on the side of the roadwheel mounting, missing from the Dragon kit along with the bracket for the end of the exhaust pipe. Notice also that the coil spring does not have a continuous diameter core but is stepped at one end.



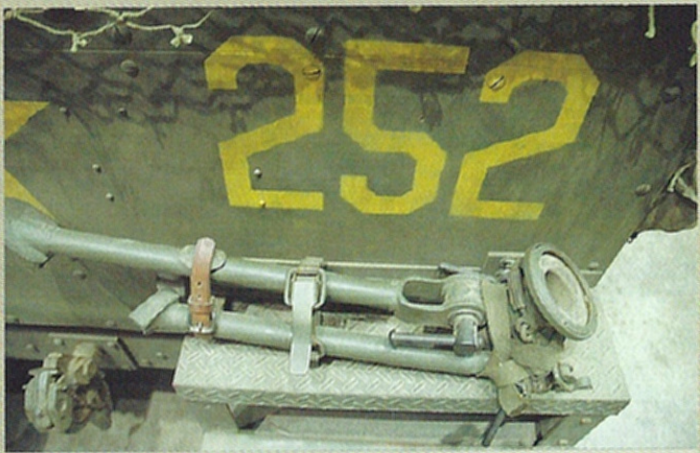
The rear of the chassis with centrally mounted tow hook. Note also the track tensioning adjusters at either side.



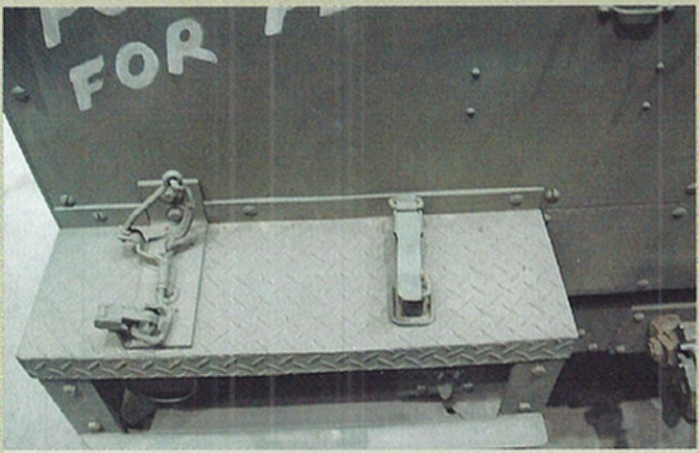
One of the rear corner units which mounts the tail lights and serves as a stowage shelf.



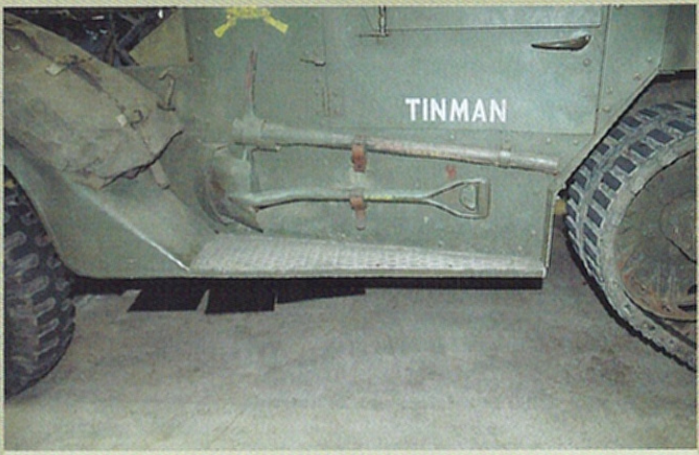
Portable tripod mounts for the two .30 Cal MG's are stowed on these shelves / steps.



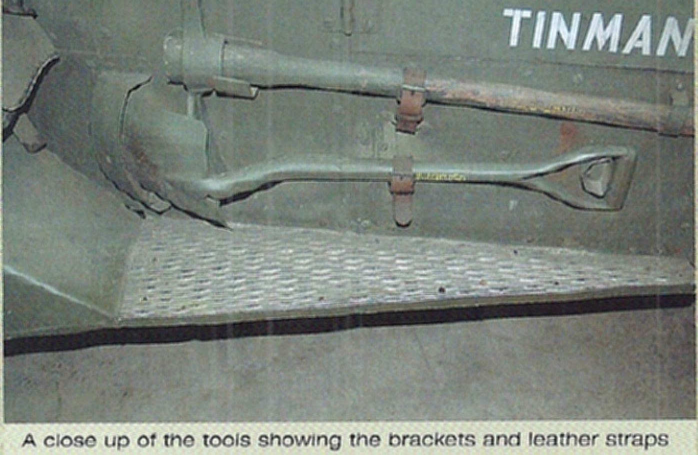
Another view of the portable tripod.



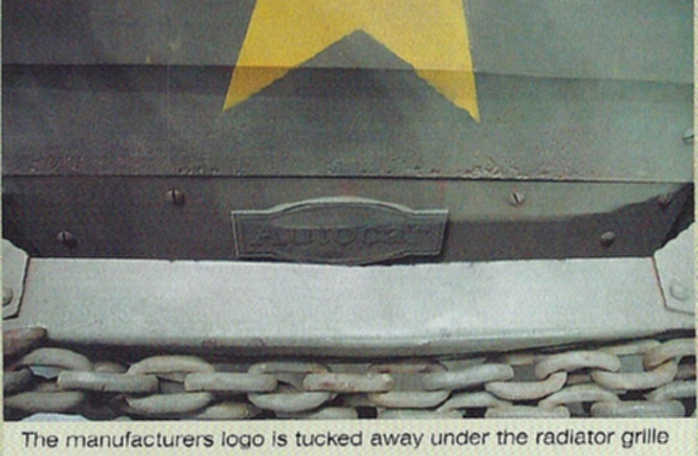
The oposite shelf without the tripod allows the brackets to be seen.



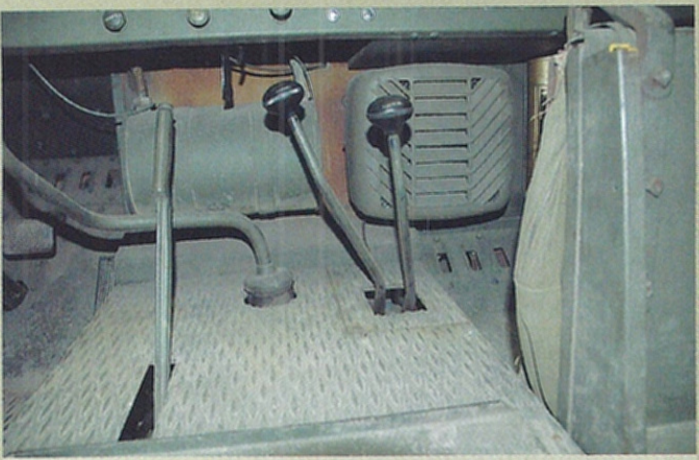
The driver's running board area showing the tool stowage.



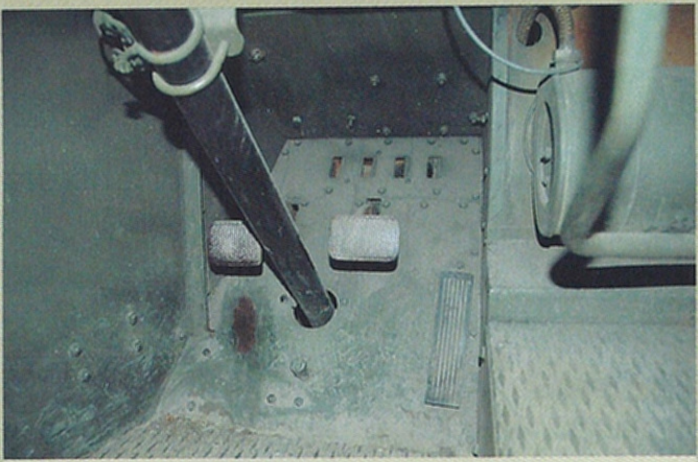
A close up of the tools showing the brackets and leather straps used to secure them.



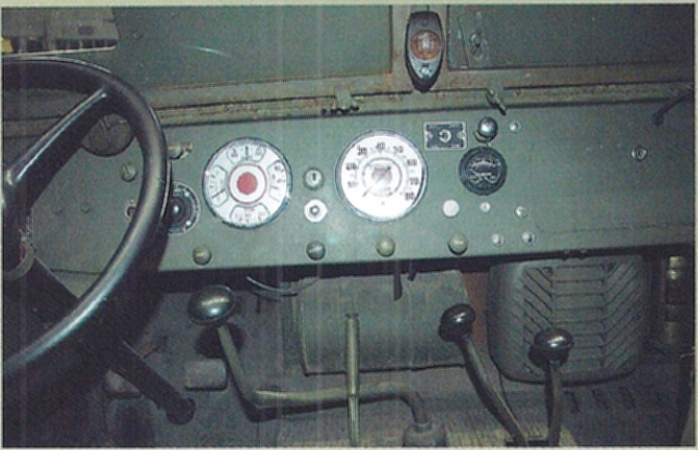
The manufacturers logo is tucked away under the radiator grille behind the bumper.



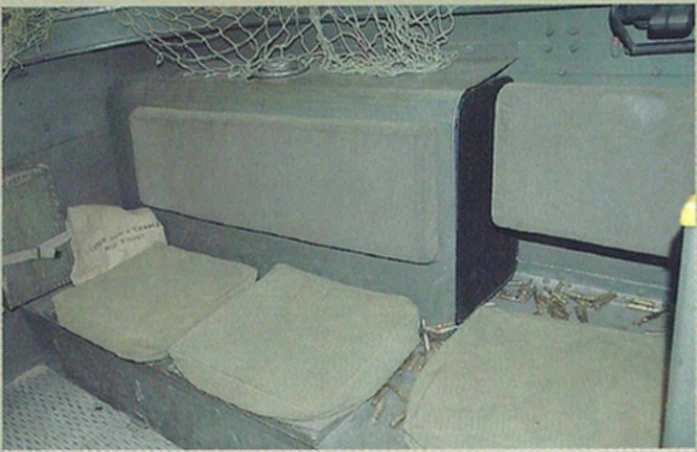
Moving inside the cab this view is looking along the transmission tunnel. The co driver's seat is folded forward.



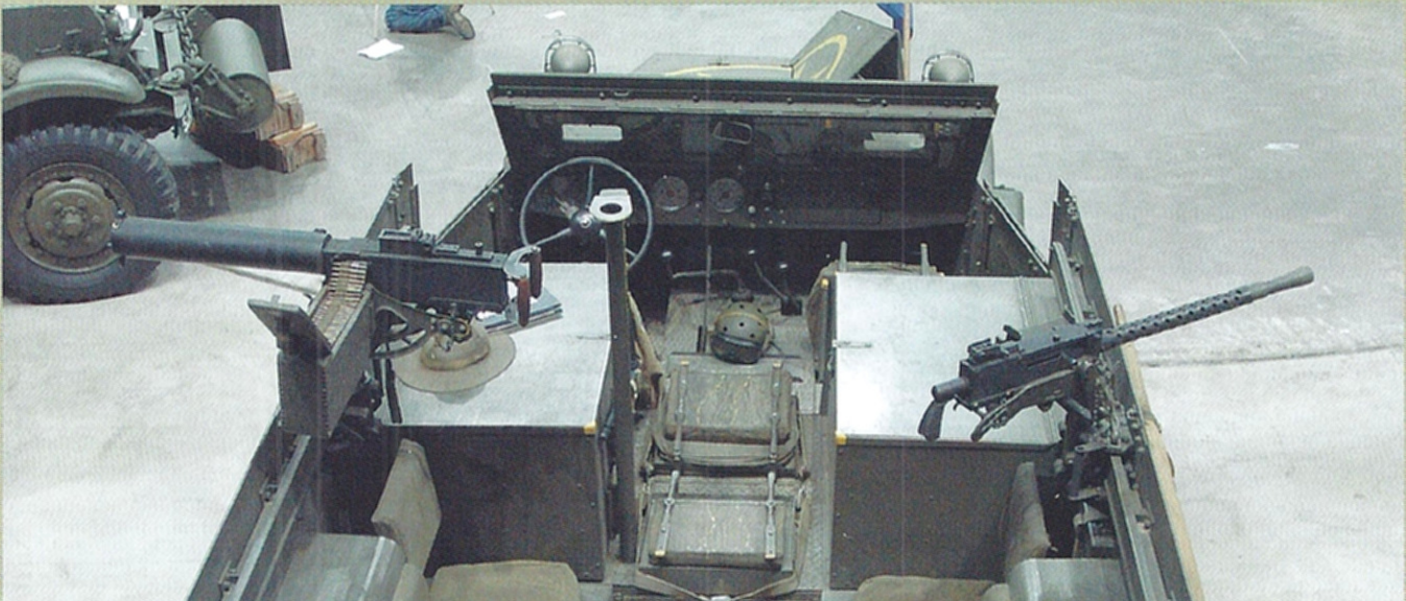
The drivers controls in the footwell.



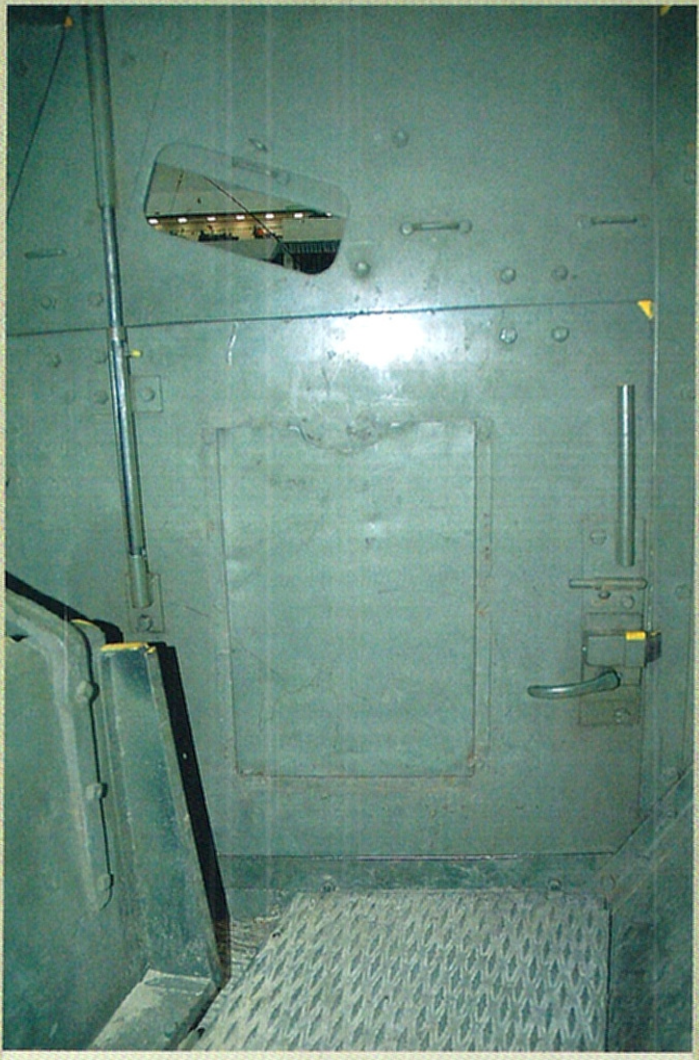
The instrument panel features some quite high visibility dials!



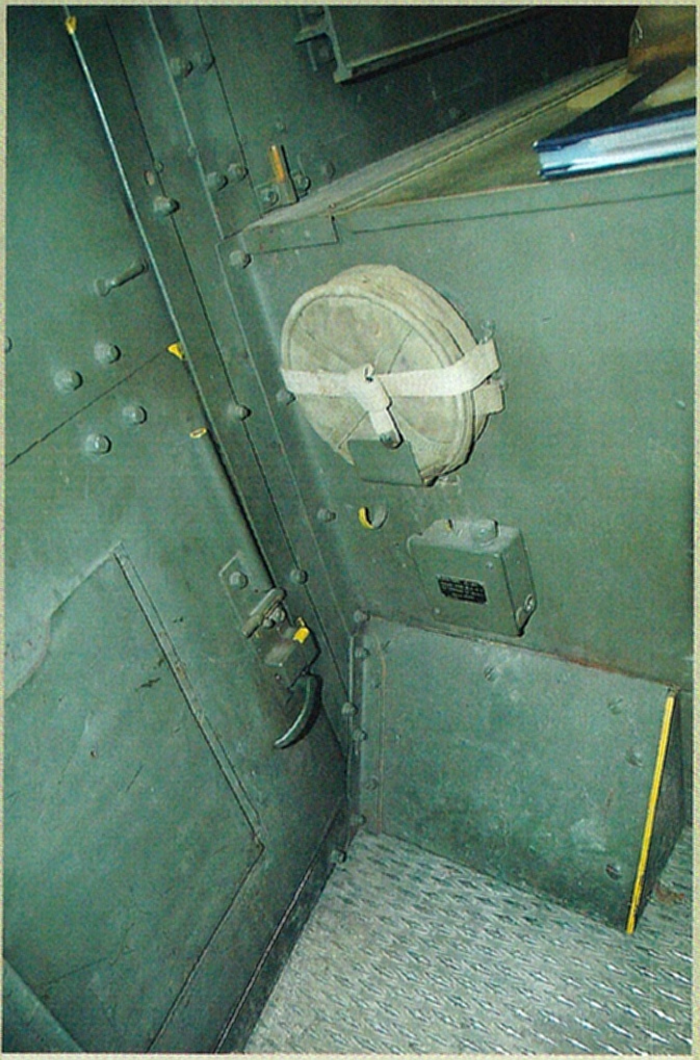
The rear seating area with its simple fabric cushions.



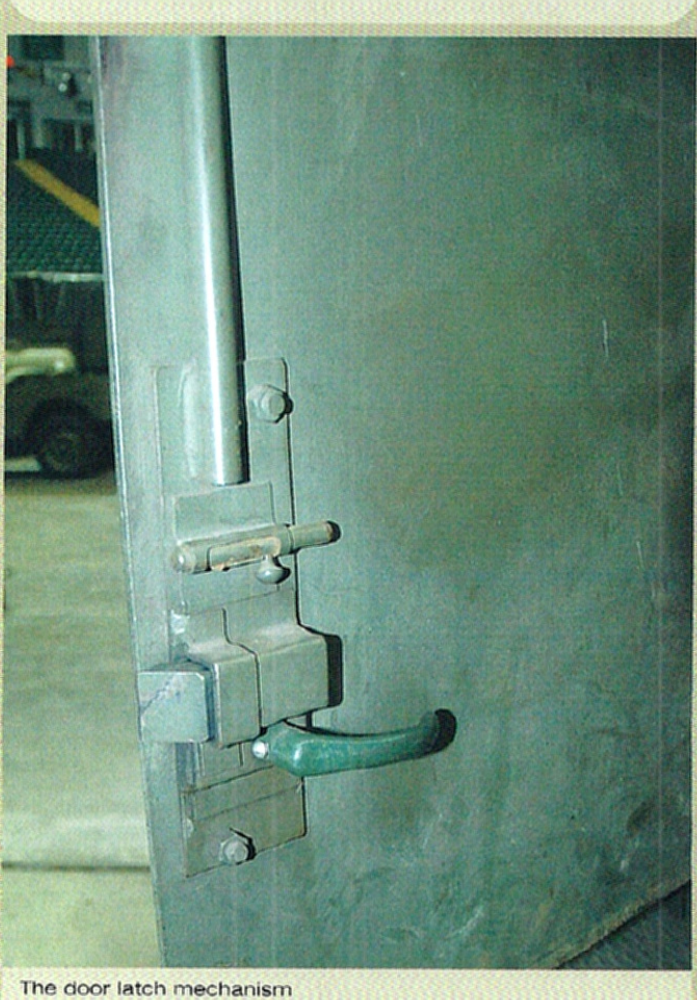
An excellent overall view of the internal layout of the M2. In this view the two central seats are folded flat and the co- driver's seat is folded forward. Although the radio mast remains the antenna and radio are missing as is the forward section of the MG



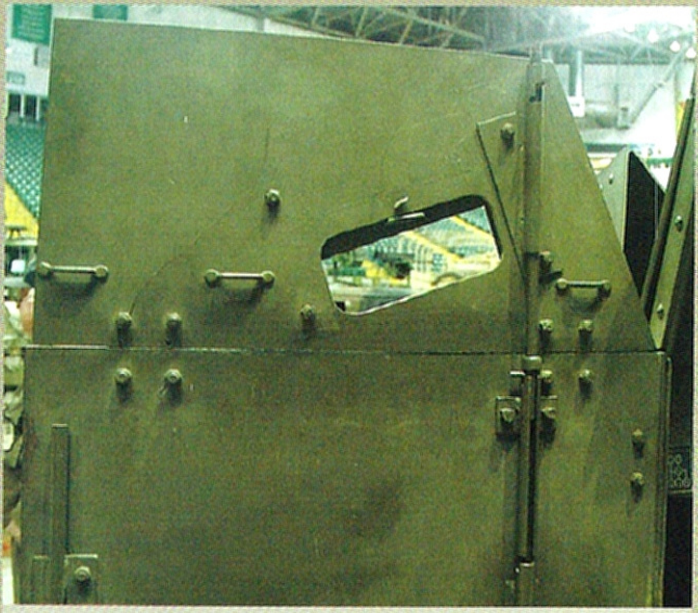
The inside face of the co- driver's door which show the sliding latch arrangement used to secure the top section of armour.



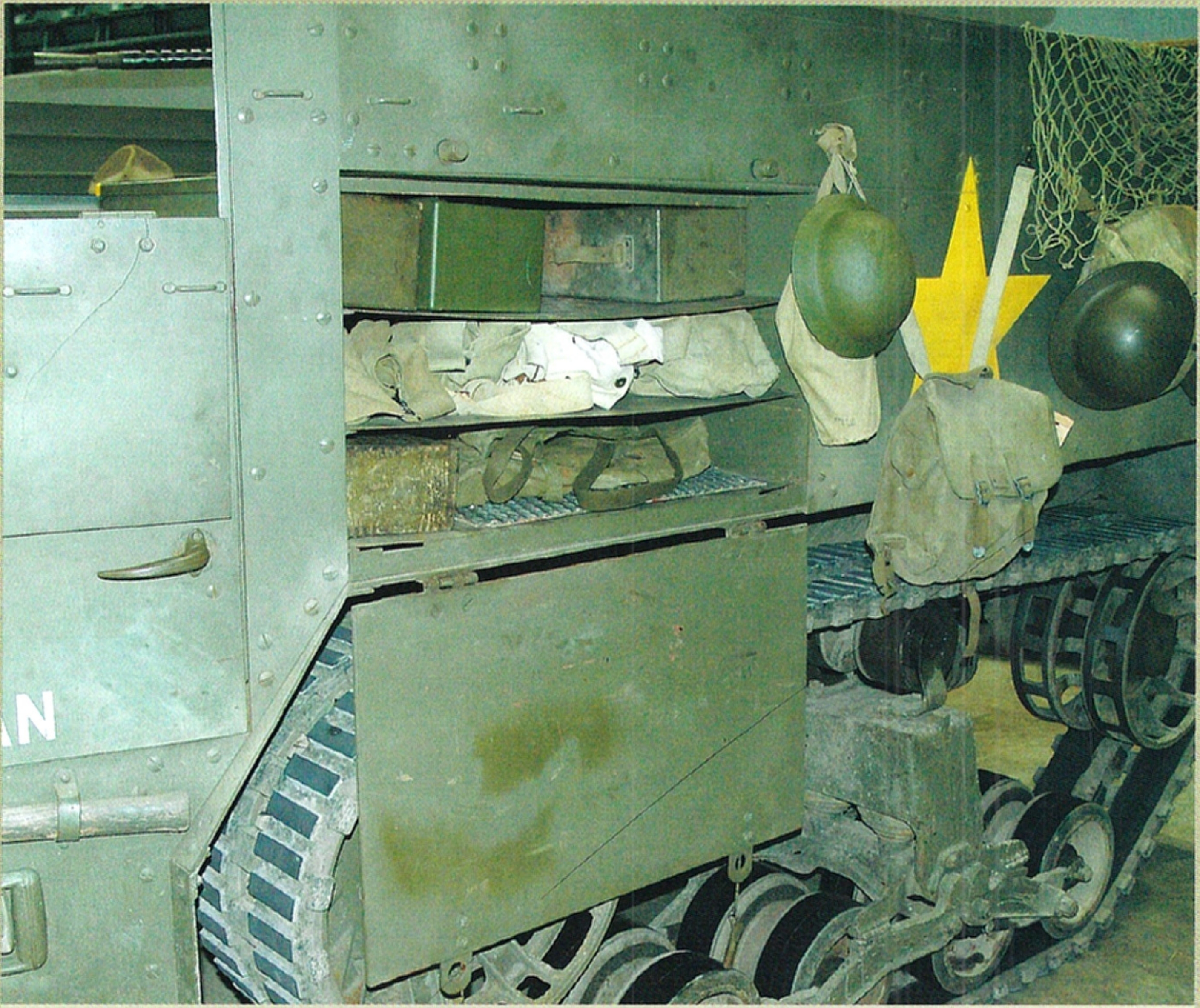
The same door and the stowage compartment behind it.



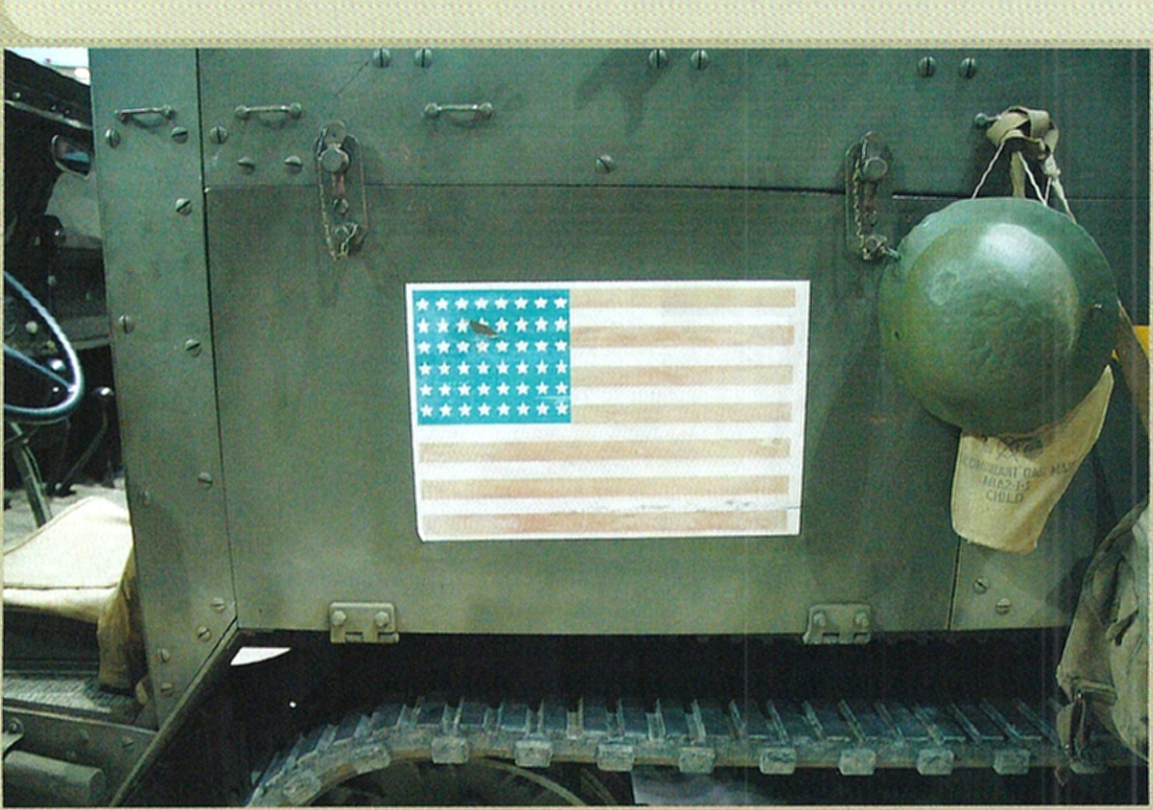
The door latch mechanism

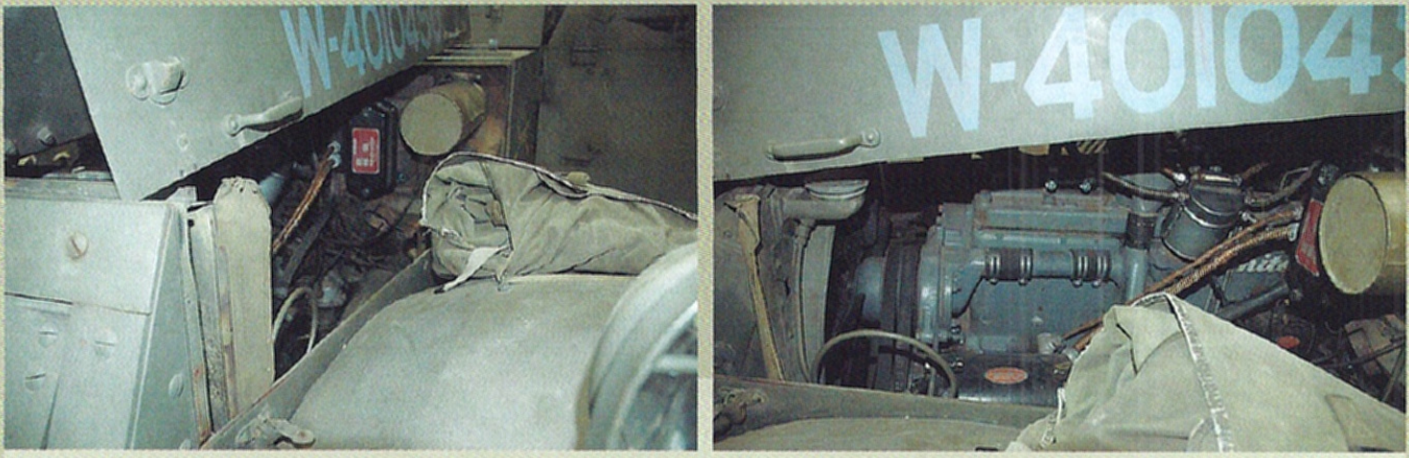


The inside of the dirver's door.

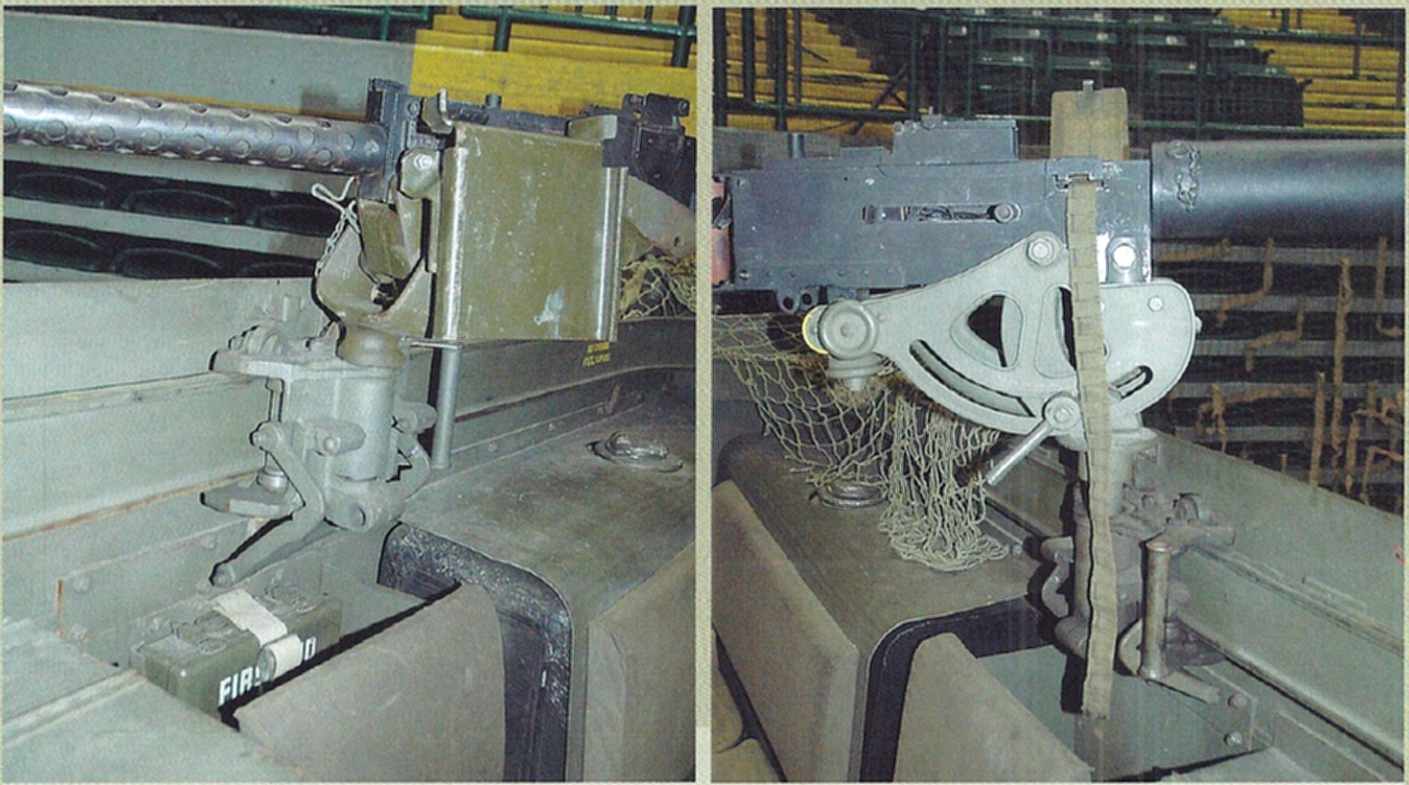


The vehicle has two stowage bins mounted on either side of the hull. These two pictures show the show the arrangement of these bins and their appearance when closed. Also seen here are the distinctive screw head fixings of the armour.

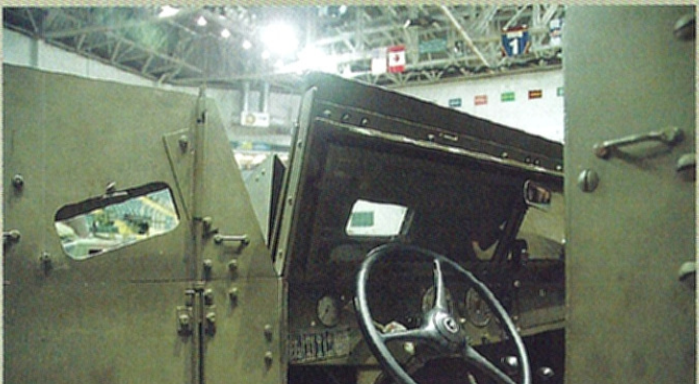




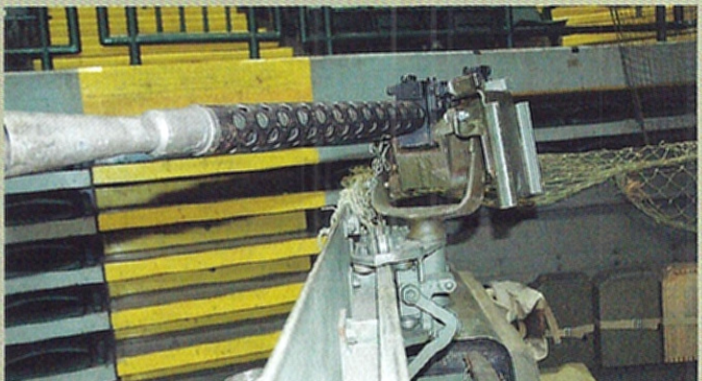
Two views of the engine compartment



Two detailed views of the machine gun mount and the moveable bracket which allow the guns to positioned in any direction around the vehicle.



A view into the driver's cab.

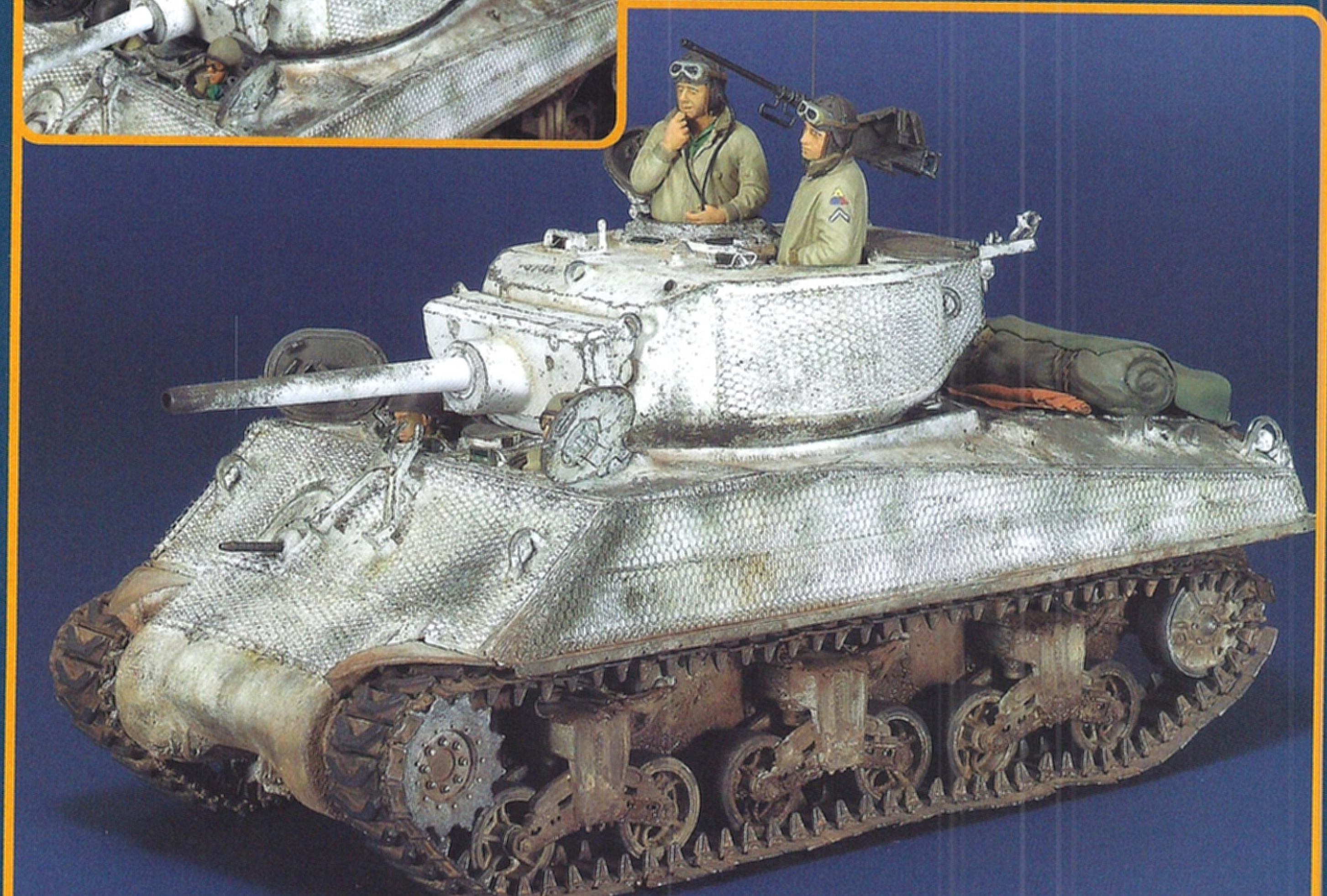


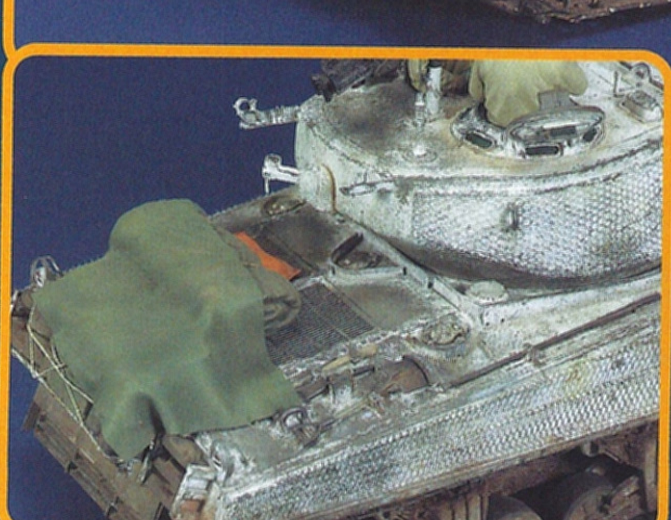
A view looking along the MG rail showing how it bolts onto the hull side.

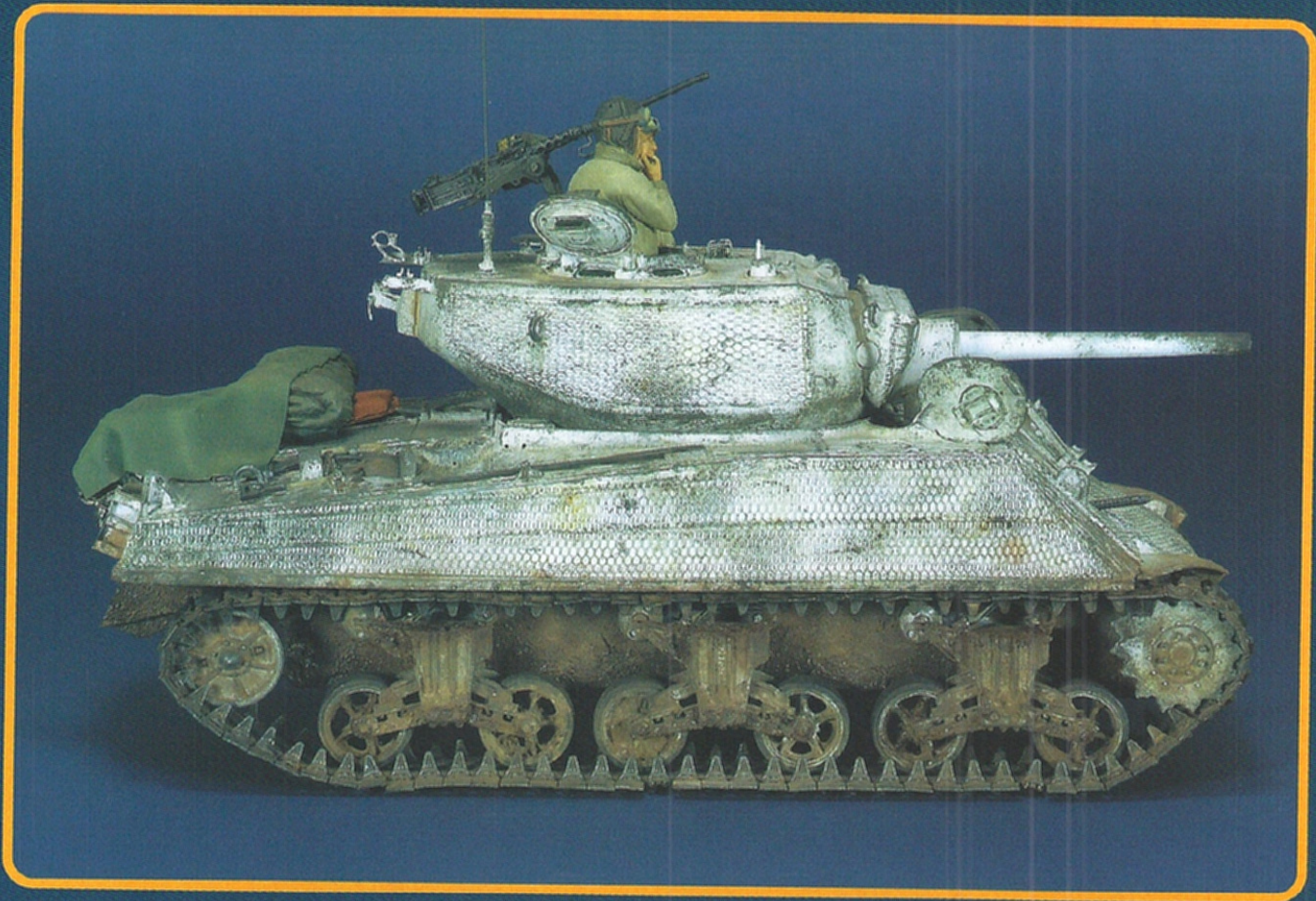
White Elephant

Sherman M4A3E2 'Jumbo'

By Antonio Martín Tello







The real Jumbo

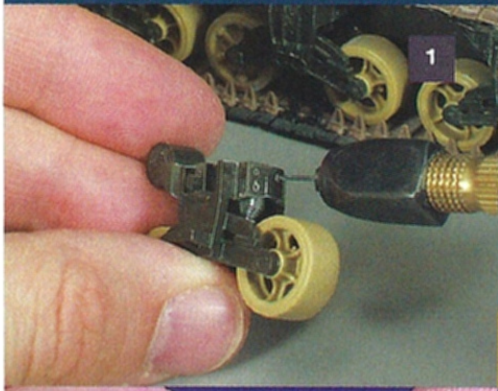
In 1881, the legendary American showman and circus promoter Phineas T. Barnum bought an elephant named Jumbo to the London Zoological Society. Jumbo was a huge animal, more than three and a half meters in height and six and a half tons in weight. The elephant was one of the stars of Barnum's circus and its popularity reached incredible levels. After its death, the elephant was still one of the main attractions of Barnum's circus, since its skeleton and its stuffed skin were exhibited afterwards. Jumbo was so famous that its name became part of the American popular language as a synonymous with "big" and since then there are jumbo hamburgers, jumbo mugs, jumbo jets.... and jumbo tanks.

A jumbo Sherman?

At the beginning of 1944, a requirement was made by the US Army to put into service a more heavily armoured tank in anticipation of the assault on static defensive German positions in Europe. Since the development of the T26 Pershing was still not very advanced, a decision was taken to modify some of the M4A3's in production to meet the requirement. A completely new turret with thicker armour was installed on a chassis which had extra armour attached at the front and sides of the hull. Also, a new thicker transmission cover was adopted, although the 75 mm gun was retained. The extra weight meant that the use of track extenders was standard. Despite the increase of weight to 42 tons, the new tank was not much less maneuverable than conventional Shermans. 254 of these M4A3E2's, were built by August 1944 and started to reach the front line units in October 1944. The US tankers immediately liked the M4A3E2 since, for the first time, they crewed a tank able to resist the hits of the dreaded German 88 mm guns at normal combat ranges. The capabilities of the Jumbo increased when some of them were rearmed with the long 76 mm gun in February 1945. It has become common to refer to the M4A3E2 version of the Sherman tank as "Jumbo". The term would account for the extra armour and extra weight associated and the use of extenders at the tracks end connectors, which gave a bulkier appearance to the tank. Nevertheless, it seems that the word "Jumbo" was actually never used during WWII to name this up-armoured Sherman. Instead, the association of the word and the tank was coined in the modelling community and now the vehicle is more well known among modellers as Jumbo than for its official M4A3E2 denomination.

A gorgeous conversion

The Jumbo conversion I used for my model comes from Blast Models (ref. 35017) and I only can praise it for its quality, finesse and easiness of assembly. The conversion consists of a comprehensive number of resin parts, including a full upper hull and turret, and a 76 mm aluminium turned barrel. As a plastic "donor" kit for the lower hull, running gear, tools and some other small details, Blast indicates a Tamiya M4 model. The tub of any of the current incarnations of the M4A3 is the same and would also work, but the type of wheels included in the M4 box are more suitable,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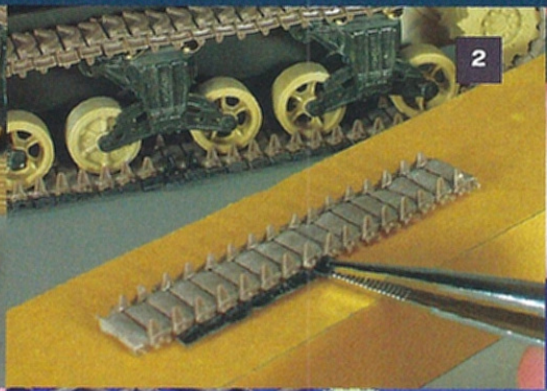
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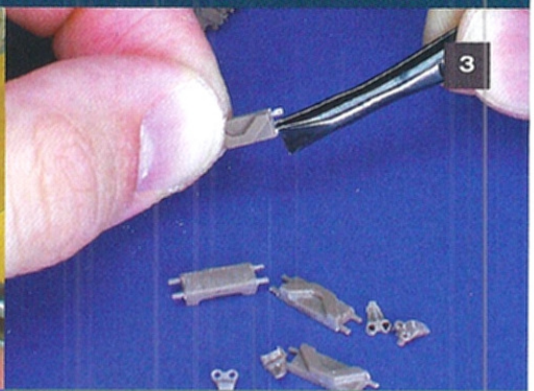
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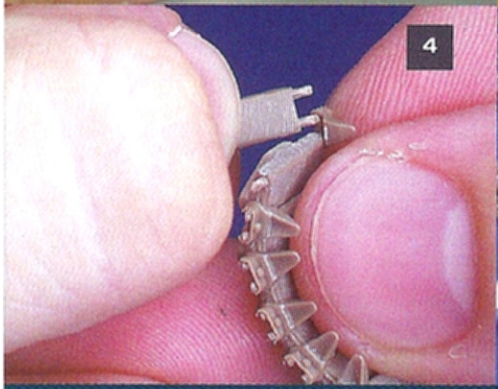
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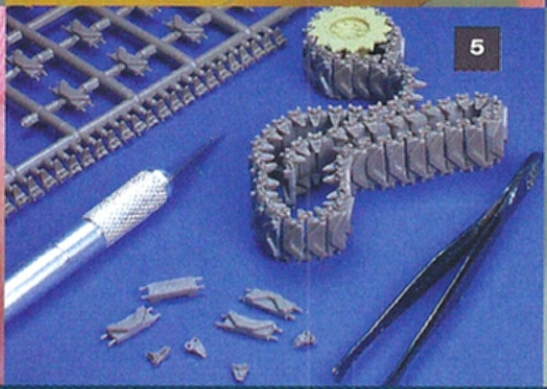
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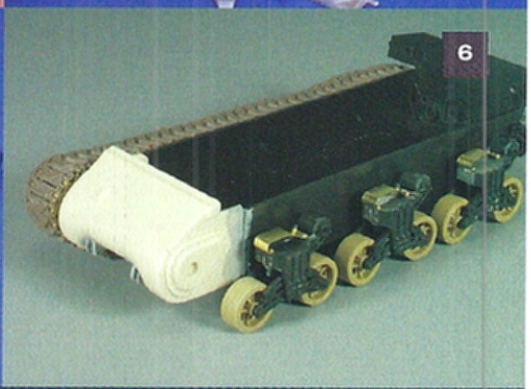
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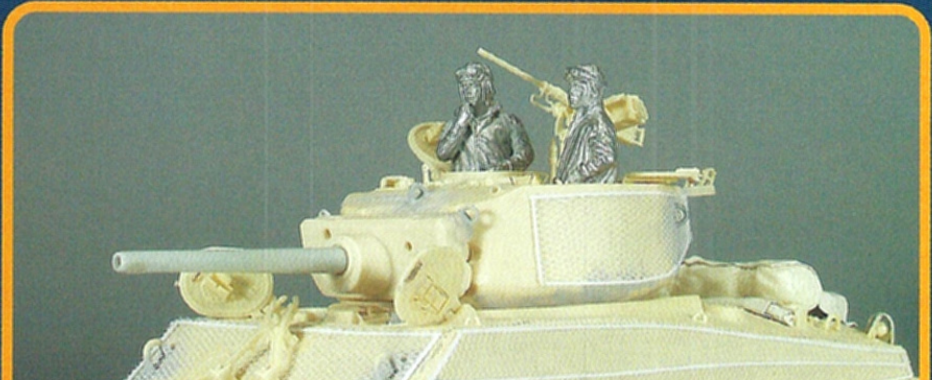


and anyway, the M4A3 rear plate, necessary for the Jumbo, is also included in the M4 as one of the "unused" parts. Anyway, in my case, I also replaced the wheels with Academy's ones, superior in quality and including detail on both sides (the Tamiya wheels are hollow in the back). The Tamiya bogies need some extra work, like adding the four holes for the reversible arms (pic 1). Also, I replaced the upper skid with Aber PE parts detailed with bolts shaved form spare Academy early skids included in their Sherman suspension sprues. For the track, Blast includes in the box resin extenders for the end connectors to be added to the Tamiya rubber band track. Since I personally do not like rubber band tracks, I used AFV Club's T48 semi-workable individual linktracks (ref. 35038)(pic 2) which offer a good value for money. All the links have ejector pin marks on the inside surface. Fortunately, the mark is raised so it can be easily trimmed and sanded off. The tracks are described as "workable", and indeed they can be articulated if no glue is used to attach the connectors to the links. In my experience, the fit of the link pins in the connector holes is somewhat loose, and so the tracks tend to break up when they are handled. A trick that I have found useful is to slightly flatten the pins with tweezers in such a way that they now fit more tightly in the holes and prevent them from coming out. (pic 3&4) A final point with the AFV Club tracks is that they seem to be wider than the Academy, Dragon, RHPS or Tamiya ones, since they do not fit the Academy drive sprockets. It is necessary to include a spacer of about 2mm between the two halves of the sprockets to make them wider and thus make the track fit snugly. The AFV Club sprues include their own extenders as separate parts, but I am not sure if there are enough extenders in the box for all the links. Fortunately, I had many more in my spares box. The extenders were glued to the end connectors laying a section of track in a flat surface Some of the connectors were lost during the building, but this does not matter very much since inspection of wartime photos reveals that this also happened in real life.

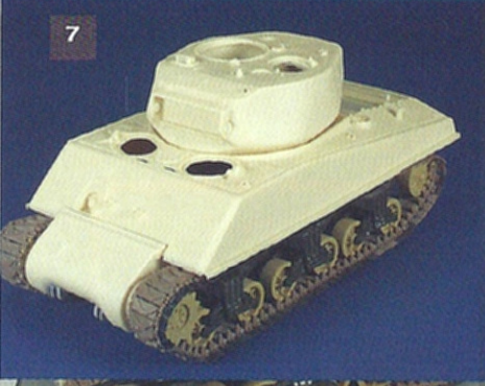
Other additions were a Formations tool set (ref. F018) and some bits from the Aber PE set for the M4. I replaced the 76 mm gun with a 75 mm one from the Dragon M4A4 which in my opinion fitted better in the mantlet. The stowage at the rear of the vehicle came from the spares box, and the tarpaulin was made with A+B epoxy putty, rolled to form a thin sheet.(pic 8)

Not chicken wire mesh, but Sommerfeld Matting

Images of Sherman tanks covered with a sort of wire mesh in the last stages of the war in Europe are not uncommon. The purpose of this mesh was to attach branches and foliage. Many people think that this was chicken wire mesh that the American tankers "borrowed". In fact, except for some particular exceptions, this mesh was of a special kind called Sommerfeld Matting and attached by the Engineer Camouflage Battalions, under specific and detailed plans, to some Armoured Battalions. The installation of the mesh, welded to the hull and turret with the help of iron rails, was done in a "factory assembly line" fashion with work stations for specific tasks (cutting, welding on the hull, on the turret, painting...) and all the tanks of a company in a row, passing successively through the different stations. On my model, the mesh was made with bridal veil, (pic 10 to 12) easy and cheap to buy in department stores, and the frame rails were 0.8 mm Evergreen rods. I made templates in paper and cardboard for the different surfaces which have to be covered. Some holes have to be made for the towing eyes, travel lock, but in general it was not a difficult task, and the final result gives to a Sherman a more appealing look.

Whitewashing a Sherman

There are many photos of Shermans and other American vehicles covered with a white coat of paint during the early months of 1945. In many of them, the paint seems not to have faded with the time, but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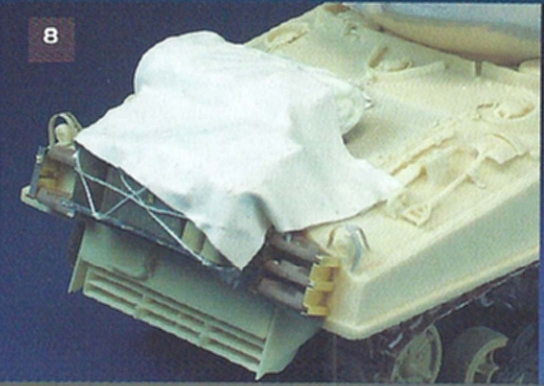
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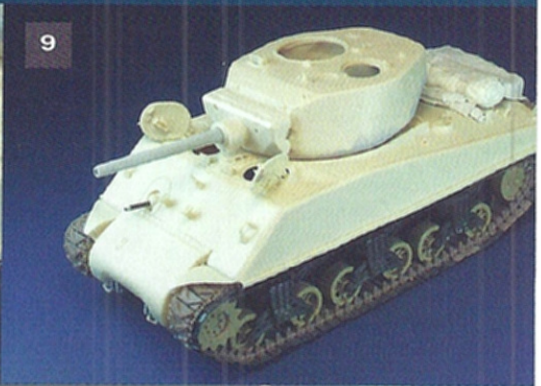
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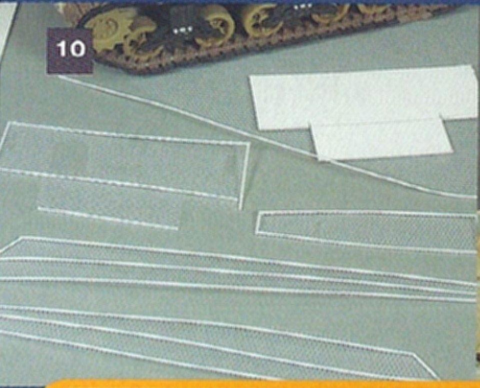
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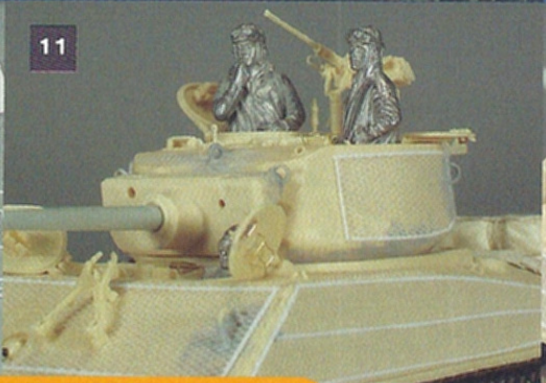
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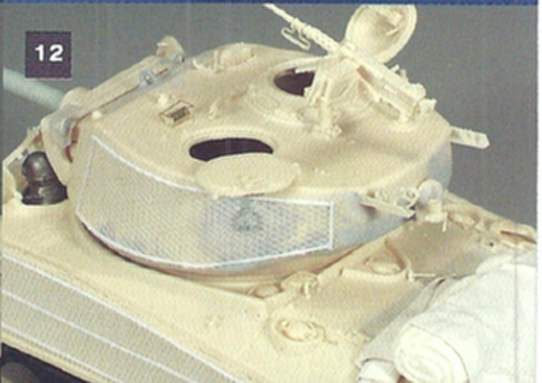
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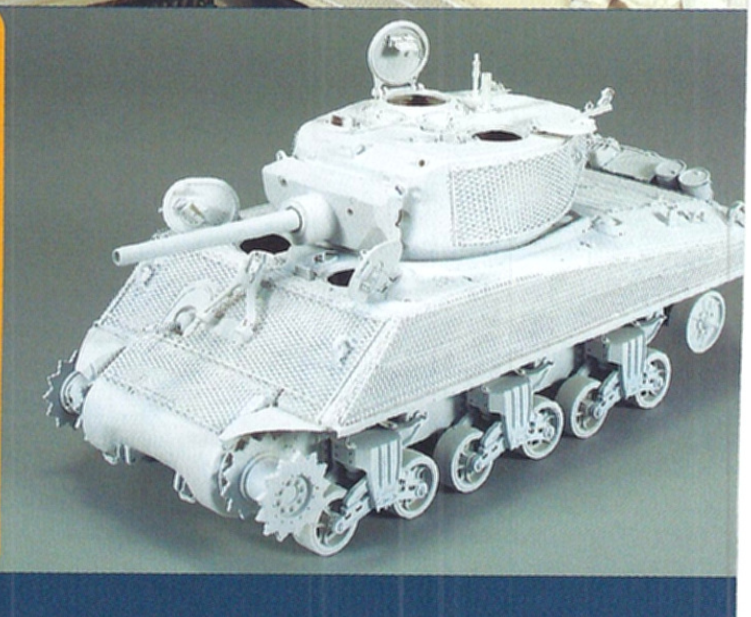

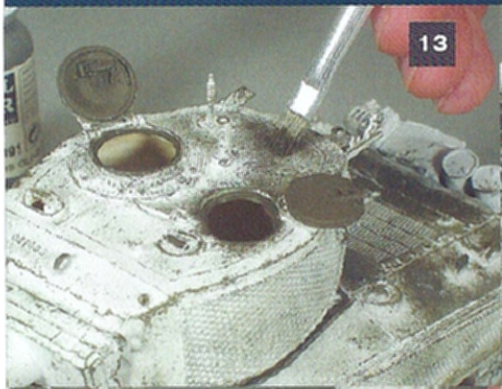
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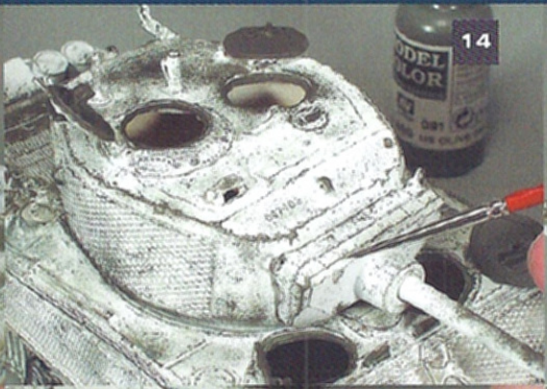
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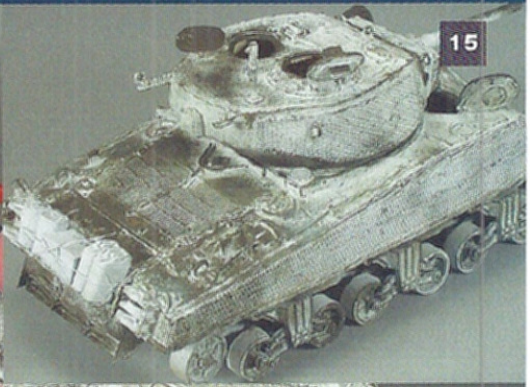
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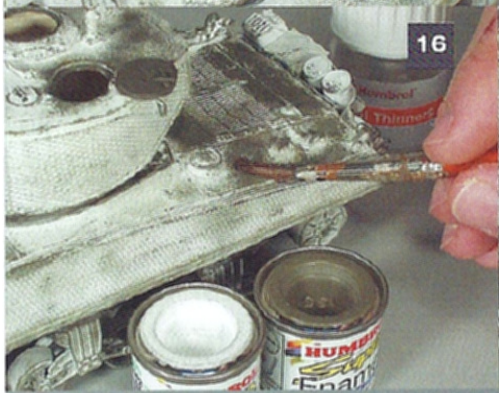
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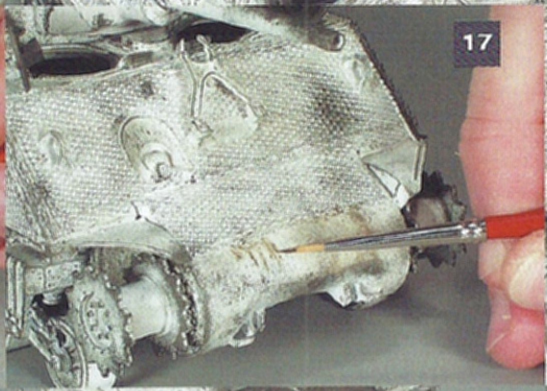
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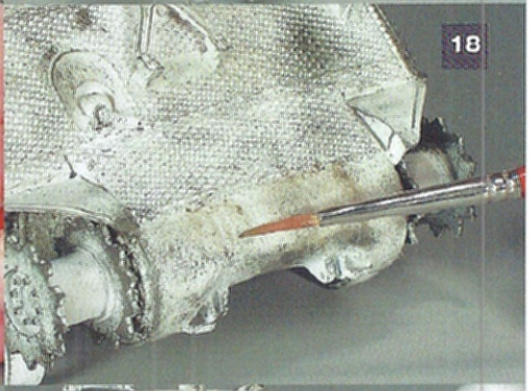
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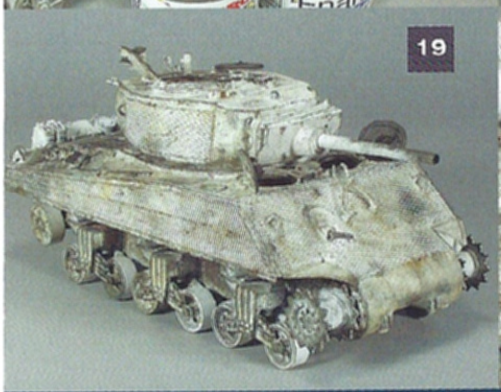
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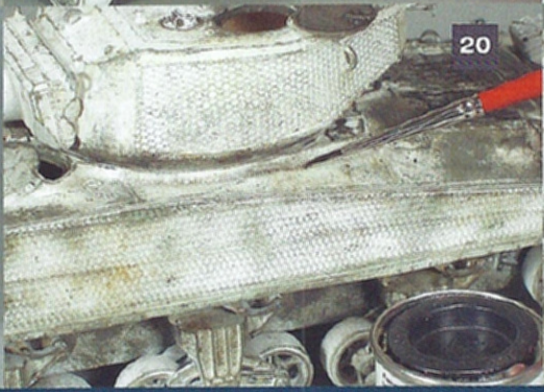
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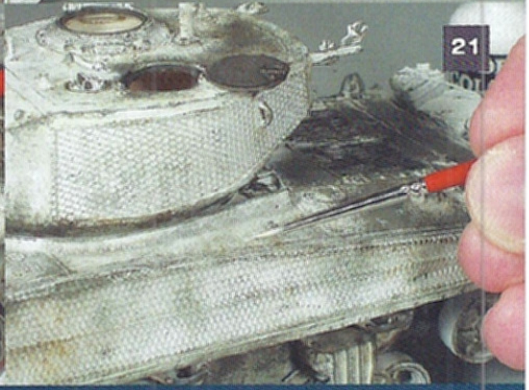
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instead it looks very chipped and flaked. Specifically, I got the inspiration for my model in a photo of a Jumbo than can be seen in several publications, for example in page 38 of the first reference (see below). So with this finish in mind I tackled the paint job.

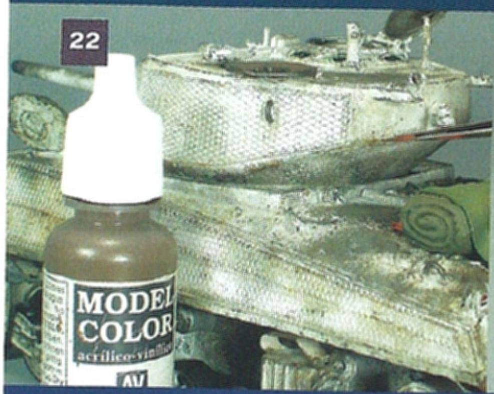
I started with an acrylic base (Tamiya) of solid flat white and then I began the weathering "chipping" this coat. I wanted to have areas with different characteristics. On the horizontal surfaces, and mainly on the engine deck, I wanted to represent a very worn out look, revealing the underlying olive drab. To recreate this effect I used a sort of "half drybrushing". (pic 13) I used olive drab paint (Vallejo Model Color) with a hard bristled plain brush and dried it on absorbent paper, but not much as for drybrushing. Then I use this brush on the horizontal areas, dabbing and performing irregular movements. It is better to use the brush in this way several times, rather than to get the brush too loaded with paint. On the other surfaces, I used a thin brush to draw small chips and scratches, especially along the edges, where the coat of paint is thinner, or in areas of frequent wear such as around the hatches.(pic 14) With the olive drab extremely diluted I painted some small areas to give the impression of some degradation of the white paint, just to avoid them to be "so white".

Well, the model looked really awful at this point with the white and olive drab very contrasted. Fortunately, the next painting steps will settle this. (pic 15)

Toning down

The filters seemed the ideal technique to start to blend all the areas, so I applied some filters of Humbrol enamels with olive drab and white, very diluted in the Humbrol thinners. (pic 16) Then I applied some oil pinwashes in several shades of ochre, brown and white, the former especially on the lower areas. On the surfaces wet with Humbrol enamel thinner I put some small spots of oil, and then I blended them with more thinners, (pic 16&17) in vertical strokes on the vertical surfaces or clouds in the horizontal ones. Now all the colours in the model seemed much more integrated. Then I moved to paint the details, such as tools, interior of the hatches and stowage cans and boxes at the rear. These were painted with the appropriate colours from the Vallejo Model Color range and treated with filters, chipping and washes in the normal way. Also the tarpaulins were painted now, this time with the airbrush, starting form a dark shadows progressively lighting the prominent details with lighter colours. I was satisfied with the result achieved this way on the extended tarpaulin, but in the rolled one I continued to work the light and shadow contrasts with Model Color very diluted, applied with a thin brush.

To finish the weathering process, some of the standard tricks of the trade. I applied very controlled washes of black enamel in the recesses, lines and around some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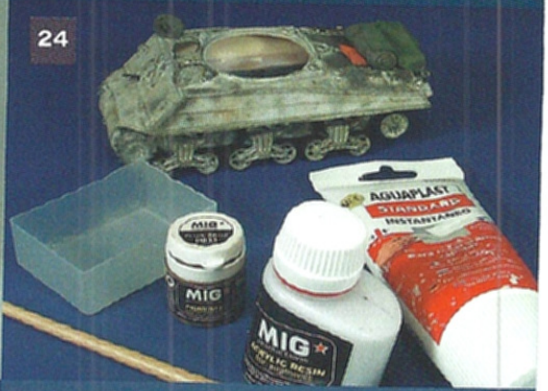
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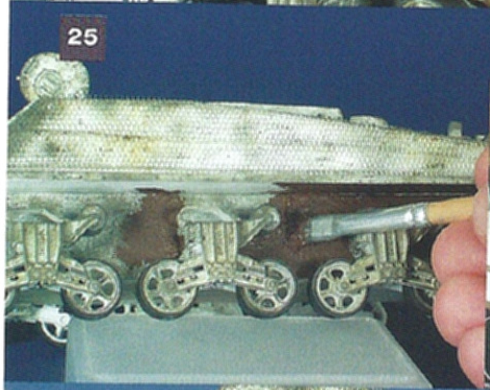
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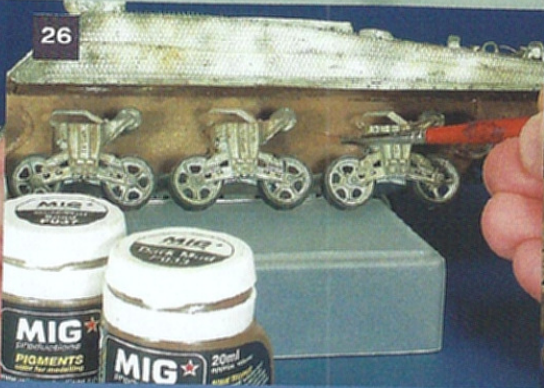
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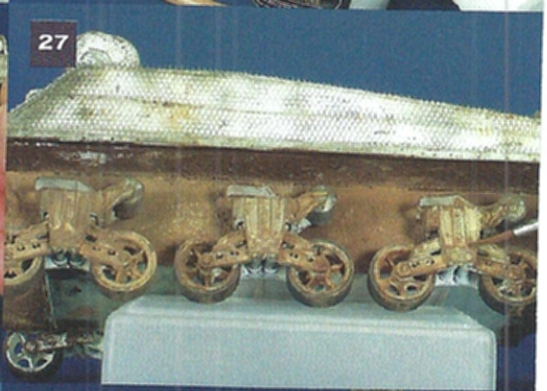
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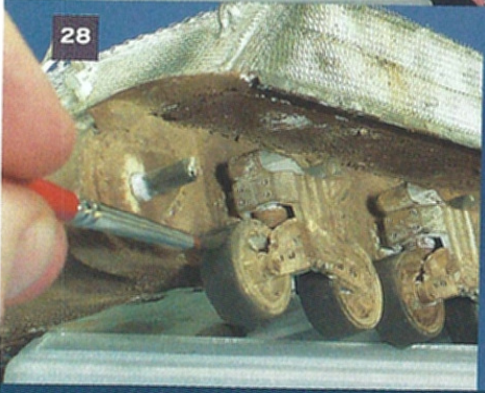
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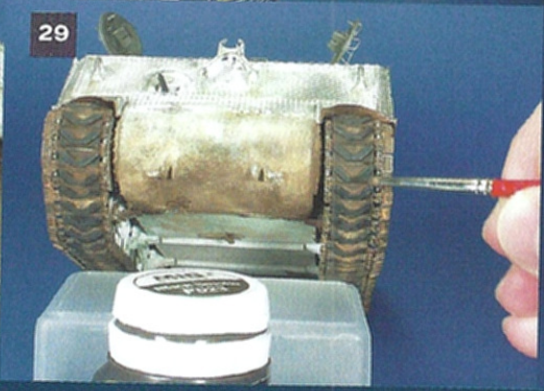
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30
MIG
Dark Mud
P033
MIG
PIGMENTS

details to enhance the depth. I painted a few white chips on some surfaces, mainly those quite degraded by the washes (pic 21). And finally, some few chips of chocolate brown, simulating the complete disappearance of the paint, on some edges (pic 22)

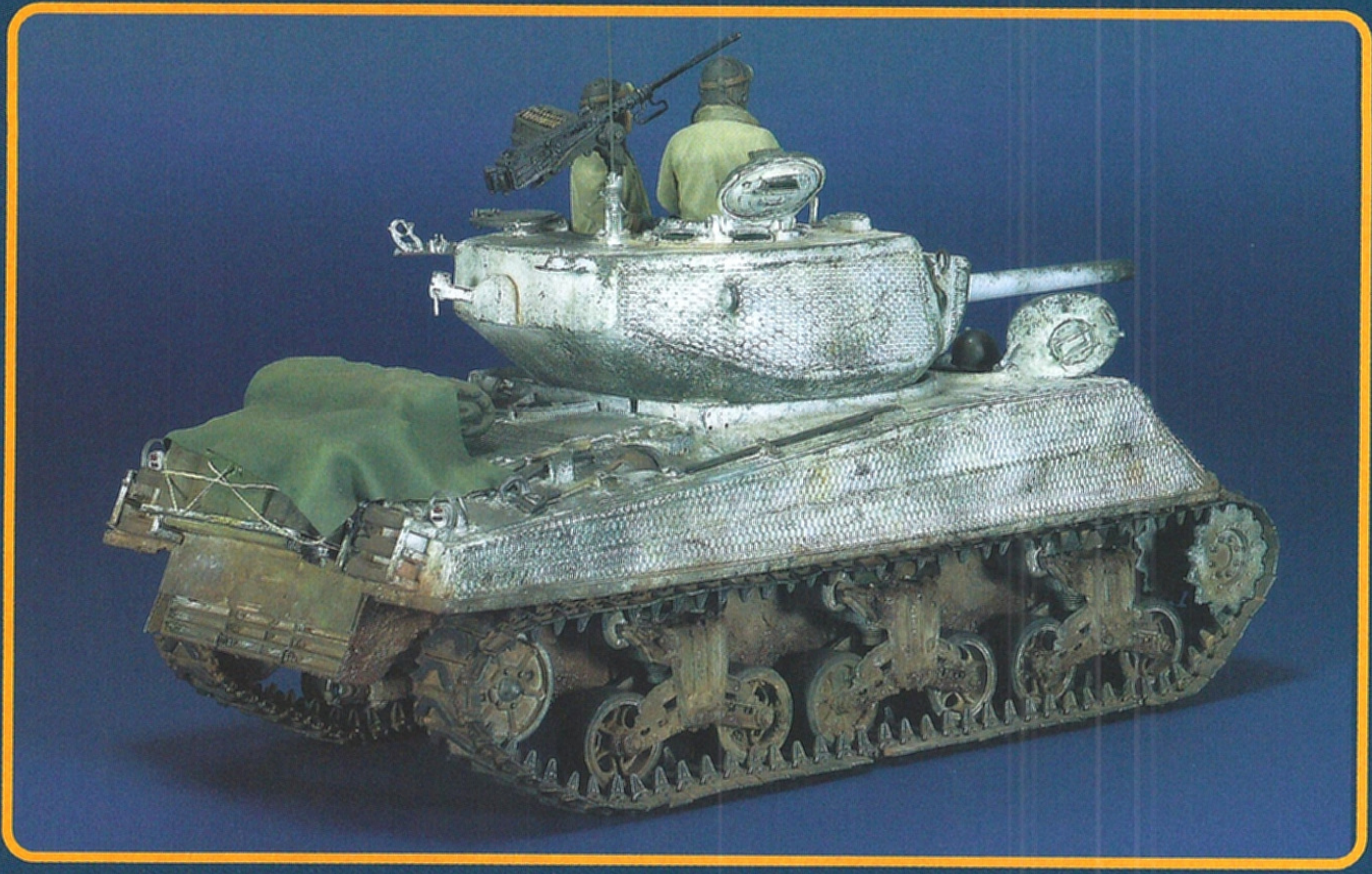
Before I started to dirty the running gear, I painted the rubber tires of the wheels with matt black. Also, the edge of return rollers, idler wheels and teeth of the sprockets were painted with a mixture of grey and silver and polished with graphite and tissue paper.

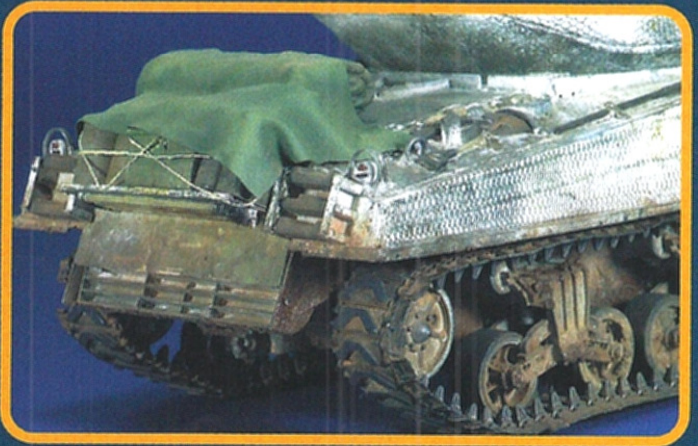
Do elephants to wallow in the mud?

To enhance the wintry look of the tank I decided to add a generous amount of mud on the lower areas. I did no want a homogeneous layer of monotone and boring mud, but something varied, dry mud in some areas, wet in others, half in other ones...

The basic components for the mud are acrylic resin and dark mud pigment both by Mig Productions and plaster (pic 24). Everything was mixed in a container and applied with an old, disposable brush to the lower hull sides (pic 25). Varying the proportions of the mix, you can obtain a more shiny (wet) of matt (dry) look. The more acrylic resin you add, the more glossy the mud when finally sets. To have an irregular look to the mud, I applied some more pigment (dark mud, European mud, light dust, African earth) taken directly from the jar. In this way, interesting gradations are achieved (pic 26). The lower portion of the glacis is worked in a similar way, but more carefully, trying to avoid hiding all the previous work, and with pigments very diluted in water for some of the brush strokes. Next it was turn for the bogies. Here, I used a combination of pigments diluted with water, to get a better fix, and dry pigments directly from the jar (pic 27). This is only a preliminary work, since the "heavy mudding" on the bogies was done after fitting the tracks. Also at this stage, I applied black pigment on the surface of the wheels, where the rubber should be cleaner because the continuous friction with the rubber tracks. (pic 28)

As for the tracks themselves, they received a first coat of Tamiya acrylic matt black, followed by a wash of a reddish brown only on the end connectors (remember that the T48 track had rubber links) to simulate some rust. They then received an overall wash of dark mud pigment diluted with water, and once dry, they were "drybrushed" with a clean, hard bristle brush in order to clean the outer face of the chevrons and the inner surface. The idea was to show these parts cleaner, due





to the contact with the ground or the rubber wheels, and the mud and dirt accumulated in the recesses. Then the tracks were installed in the model and again, the outer surface was treated with black pigment. (pic 29)

It was time now to apply mud to the bogies. Again, I wanted to achieve several textures in the mud, from wet to dry. Here, to get dry mud I mixed small amounts of Mig Productions acrylic resin and dark mud pigment and applied the paste with a small brush, mainly in the lower areas. For the dry mud I made a paste with matt varnish and pigment I applied it where I thought the mud would have accumulated and had time to set. Finally, to blend everything I applied some tiny amounts of dry pigments in some specific spots.

and, I applied some pigments on the front mudguards, side rails, and very sparingly, in some recesses of the hull and turret (pic 30). Three of the figures (the two guys in the turret and the driver) come from a very old Verlinden set and are made of white metal. The co-driver has a Hornet head with a Tamiya helmet and a dragon torso barely visible. The four were painted with Vallejo Model Color acrylic paints. The tankers of the turret had the wiring for the headphones and microphone added.

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"Silver Star Jumbo", by Steven Zaloga. Military Modelling, vol. 32, no. 4, 2002.

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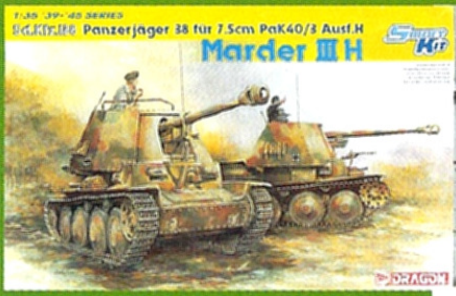
"Modeler's guide to the Sherman", by Pete Harlem. Ampersand Publishing Co., 1999.

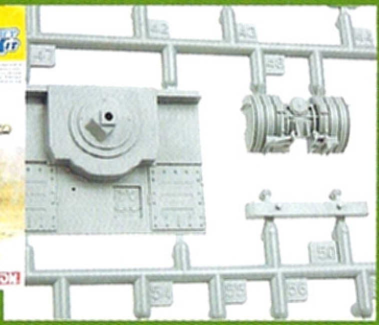
"Sherman walk around", by Jim Mesko. Armor walk around series no. 1. Squadron/Signal, 2000.

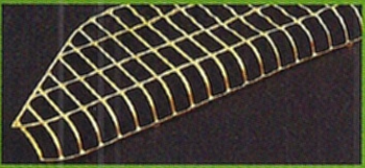
"The Sherman at war. The European theatre 1943-45" (Vol. 1), by Steven Zaloga. Armor at War series no. 7001. Concord, 1994.

"The Sherman at war. The European theatre 1943-45" (Vol. 2), by Steven Zaloga. Armor at War series no. 7036. Concord, 2001.

Keeping Track - new releases

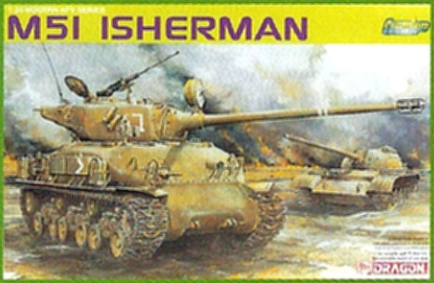

1:35 '39-'45 SERIES
Sd.Kfz.138 Panzerjäger 38 für 7.5cm PaK40/3 Ausf.H
Marder III H
Smart Kit
DRAGON

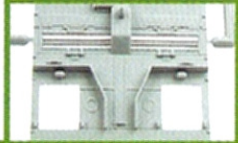




Dragon

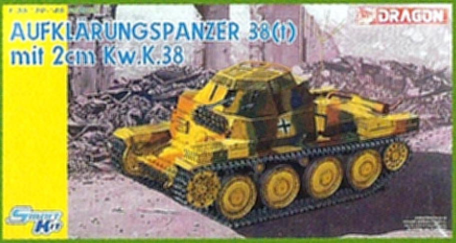
You wait for ever and then two come along at once! Dragon have just pipped Tristar past the post with their version of the Marder III H. First impressions are certainly encouraging with Dragon's usual crisp moulding and the inclusion of a turned aluminium barrel, etched fret and pre formed etched rear 'basket'. A set of 'Magic Tracks' complete with casting numbers is also included and there are spare ammunition containers and rounds also included. Inside the hull there is a reasonably detailed interior with transmission, firewall and driver's seat. It all looks good but the devil is in the detail as they say and it is in the detail where things start to go astray. There are problems with the position of visors, the pattern of the idler, the design of the travel lock, the bow plate and even the attractive etched basket should be made from rod not the flat etched section supplied. This smacks of marketing over accuracy as I am certain that the kits designers could have moulded an accurate delicate plastic basket in place of the flat but pretty brass version. I would recommend Terry Ashley's excellent review at www.perthmilitarymodelling.com for a more in depth look at some of the issues here. Suffice to say, most of these issues are small and no doubt will be unnoticed by the untrained eye but if these things matter to you then this kit does not hit the mark for accuracy.

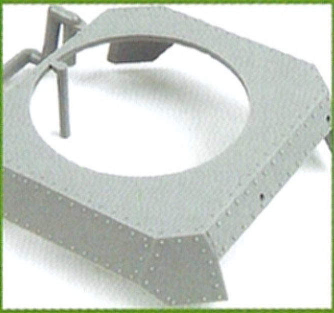




M51 Isherman

This is not Dragon's first attempt at the definitive Sherman but they have been diligent in returning to the subject and bringing some of their recent upgrades to revamp the kit although so much of the kit is now new that we should really regard it as a complete new kit. To begin with we have the excellent new multipart HVSS suspension which is complimented by some superb new DS tracks with individual hollow guide horns. There is a turned aluminium barrel, complete photoetched fenders and jerry can racks and optional etched periscope guards. Over the hull and turret there is a nicely rendered cast texture with casting numbers on top of the turret and a slightly heavy representation of the General Steel Castings logo on the hull front. Bringing together all the latest Sherman components makes for an extremely attractive looking kit leaving very little room for improvement. If there is a shortcomming with the kit then it has to be the inclusion of only one set of markings, hardly a disaster in this cracking kit.

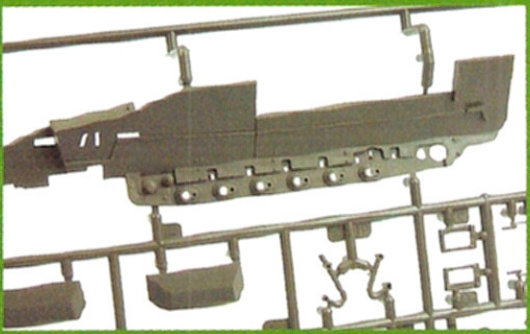


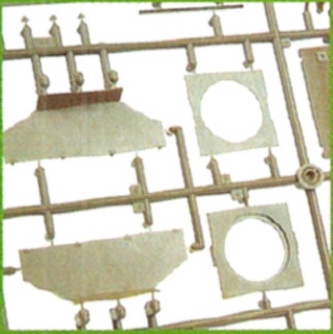


Aufklarungspanzer 38(t)

One of the final production variants to be based on the successful 38(t) chassis, this kit includes all that we have come to expect from the current dragon releases with individual link 'Magic Tracks', two photo etched frets, pre-bent photo etched screens for the turret and clear moulded vision blocks. The distinctive upper hull 'box' superstructure is cleverly moulded in one piece complete with the rivet detail and some nicely handled recessed screw heads around the top edge. There is an issue with the front drivers plate which should fit flush into this 'box' but stands proud and the kit recommends that the modeller bends the trackguards even though the channel to accept the guards in the hull sides is straight which may cause a little hair pulling although there is a jig on one of the sprues to guide the bend. The interior is reasonably well detailed and ammunition stowage and radios are supplied for the upper hull. The turret is an old friend from earlier releases and shapes up well with good detail.This is by far the best available representation of this vehicle and the few minor issues should not really discourage the average 38(f) fan.

Luftwaffe
Sd.Kfz.251/17 Ausf.C
AFV CLUB
AF35118
1/35 SCALE

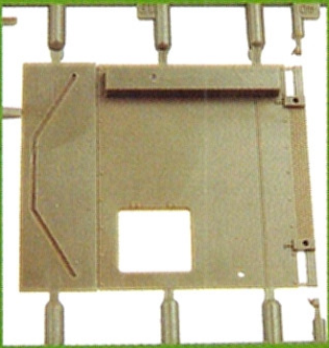


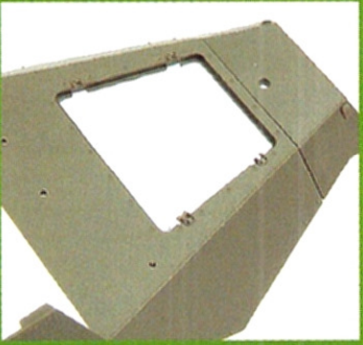


AFV Club

AFV Club continue to work through the 251 family based around their excellent rendition of the German half track and this kit sees them collaborating with Tristar to produce the Luftwaffe anti-aircraft 251/17 with its distinctive modified drop sides. Much of the basic components are already familiar so we will not dwell on them but concentrate on the shiny new bits. There are complete new lower hull sides with cut out sections for the drop sides and the original upper hull must be cut along the joint line behind the drivers position. Once this is removed there is a new rear section so surgery is very minimal. A new floor section drops into the widened hull and folding crew seats are fitted at the rear of the compartment. The folding sides also feature crew seats and these can of course be fixed in either opened or closed positions. The remainder of the assembly deals with the Flak gun with is supplied by Tristar and their re-tooled Flak 38. With their kit already acknowledged as one of the best available it is a fitting choice to compliment the AFV Club chassis. New stowage bins and rifle racks complete the kit and markings are supplied for five different vehicles. Perhaps the only shortcoming with the kit is the rubber band tracks which you may want to replace and AFV Club have a selection of individual link sets available should you wish to change. Another superb kit from AFV Club.

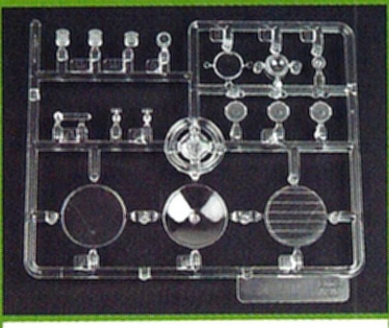
UHU
Sd.Kfz.251/20 Ausf.D
AFV CLUB
AF35116
1/35 SCALE

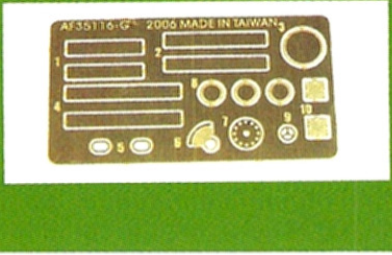




Surely the most eagerly anticipated of all the 251 variants the new AFV Club UHU is the first mainstream kit of the late war infra red night fighting system although numerous aftermarket version have been available over the years. The kit very much lives up to expectations with one rather important exception. The base kit has been reworked with a new upper hull which now has recessed screw head detail around the engine hatch and the side stowage bins now have separately moulded doors on the last two bins. There is a new raised rear floor section to mount the spotlight and the light itself has been beautifully modelled complete with internal reflectors and tiny wing nuts. It is a complex assembly but one that will repay the effort and AFV Club have included a clear sprue for all the lenses. The light can be folded down and modelled in the stowed position if desired and the two sets of walkways have been accurately depicted. In order to power the big light the real vehicle carried a generator mounted across the hull between the light and the driver and sadly this is missing from the AFV Club kit with the whole front section of the hull being plated over with an access hatch. Correcting this will not be easy although DES kits do make a model of the required generator thereby providing a solution. Despite this I find myself loving the kit and the exquisite work on the light but its a big mistake that really mars the whole package. It remains to be seen if AFV Club will go back an address the problem, lets hope they do.

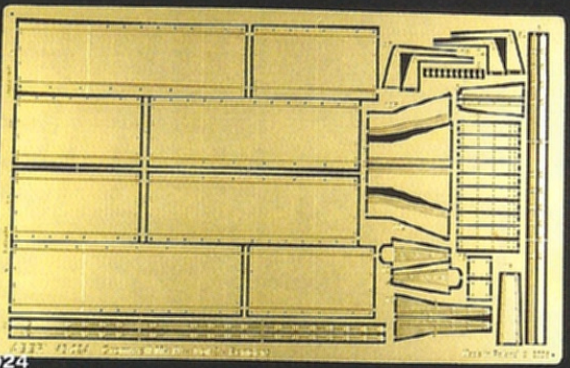
60cm Flakscheinwerfer
(Flak-Sw 36) mit Sd.Ah.51
AFV CLUB





Logically enough, AFV Club have released the 60cm spotlight used in the UHU in the stand alone, non IR version and included the Tristar Sd.Ah.51 trailer (left over from the 251/17) as well. This allows us to have a closer look at the light which is common to both kits. The kit has a small etched fret which includes the shutters which sit in the superb singly piece moulded outer cover. A clear sprue from the UHU kit provides all the lenses. The mounting brackets have moulded on electrical cable detail which may be better replaced but the overall package is excellent with a host of small details on the new tripod mount. Superb!

Keeping Track - new releases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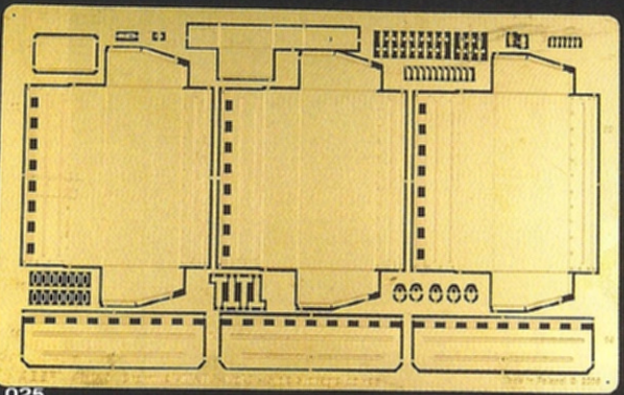
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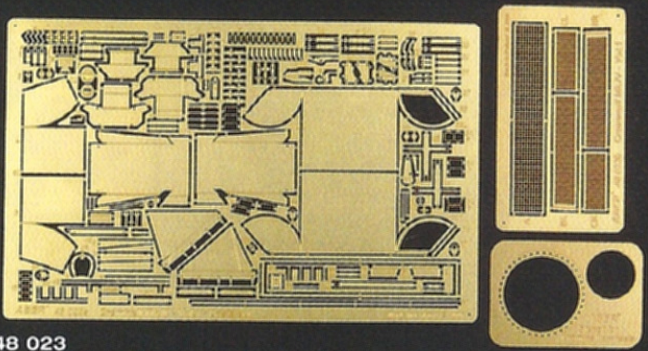
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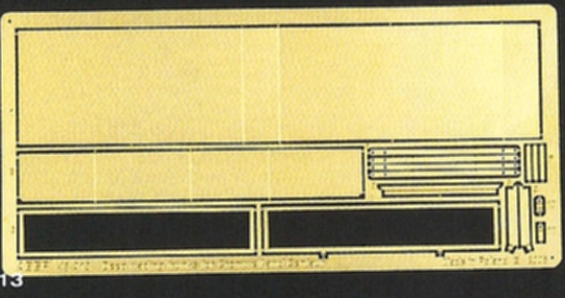
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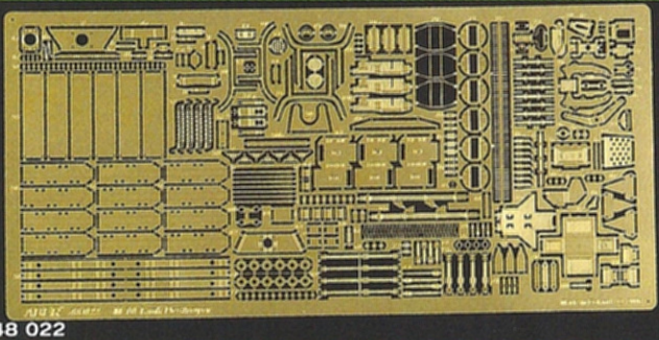
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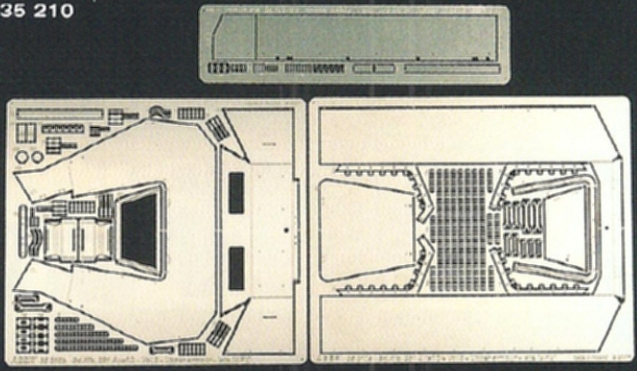

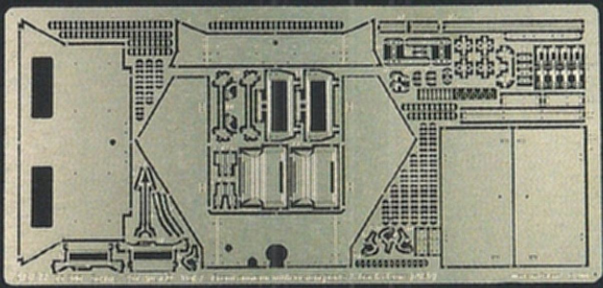
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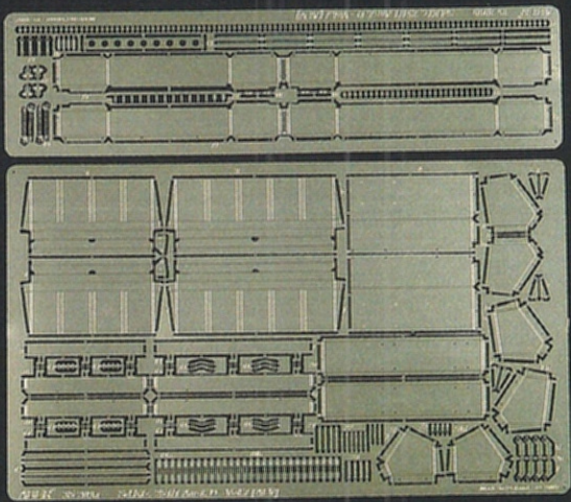
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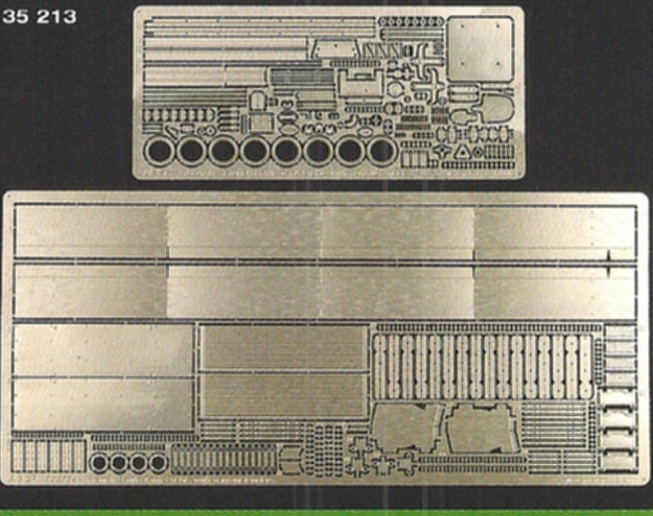

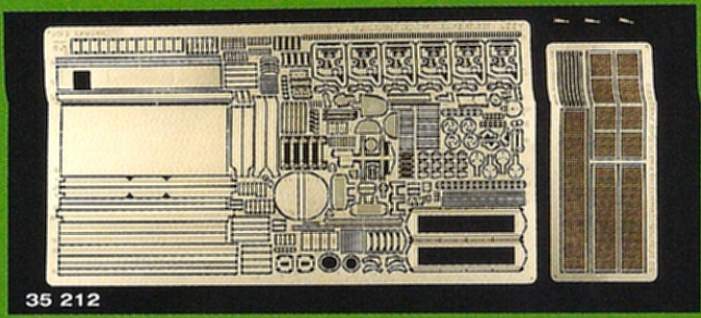
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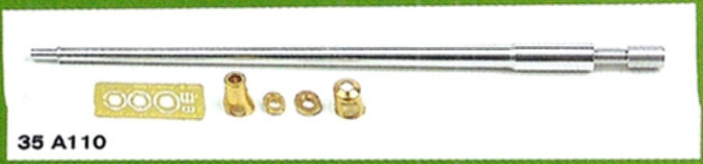
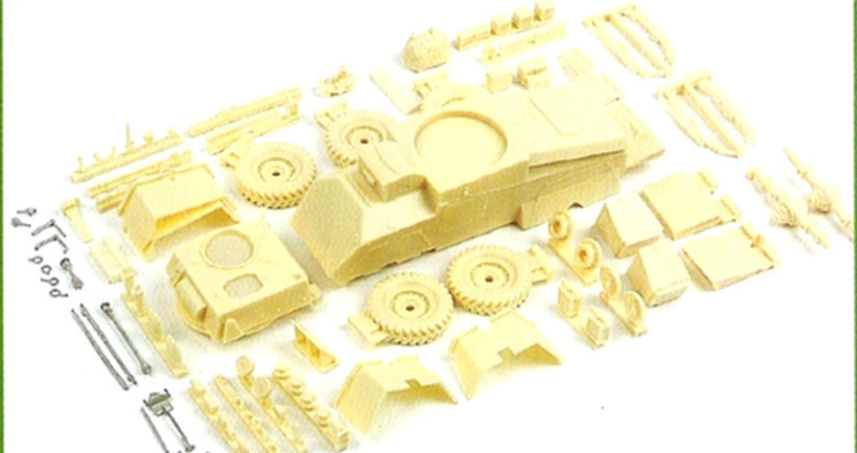

35 A110

ABER

It keeps coming thick and fast with yet more top quality photo etch from ABER. We begin again with the 1:48th scale releases which feature four sets for the Tamiya Cromwell kit. Set 48 023 is a basic detail set which includes new engine deck grilles, stowage bin latches, front and rear mud guards, Normandy cowls, vane sights and a host of small fittings. Also included is a combined mask and guide to drill out the perforated tires. Set 48 024 contains a complete set of replacement fenders and if you are very brave you may want to add set 48 025 which gives you new stowage boxes for the trackguards complete with tiny padlocks. Set 48 A13 also supplies deep wading trunks for the Cromwell or centaur. Moving now to the M10 we have 48 022 a basic detail set which includes the following delights - a complete bracket and ammunition box along with details for the .50 Cal MG, Small fittings and details like seat hinges for the turret interior, new periscopes and guards for the front hatches, complete new grouser racks, new light guards and straps and fittings for all the tool stowage.

Moving up to 1:35th scale and we have a collection of sets for the AFV Club 251 Ausf D kits with 35 210 supplying a complete replacement set of upper armour with some superb recessed screw detail. set 35 206 overlaps this slightly with a new section of upper cab armour complete with visors and a new rear panel with doors and locking mechanism. To complete this group we have 35 209 which offers complete replacement rear seats and boxes complete with all the requisite hinged access doors. I have to admit to being a little sceptical about this next set 35 213 for the Tamiya Char B1just because I could see little to improve on the original kit. But having seen exactly what is included I had to take it seriously. The set offers a new set of trackguards complete with mounting brackets, a very nice two part Renault badge for the nose, casting numbers for the turret and hull, new suspension lubrication points and doors for them. For the exhaust there is a new ribbed section for the end of them and a new sheet cover with brackets.On the roadwheels the inside lip missing from the kit is provided for the first and last set of wheels and there are detailed hinge mechanisms for both the drivers and side access hatches. Along with an assortment of smaller fittings it makes a welcome addition to the Tamiya kit. Next we have a set for the Trumpeter Pz.Kpfw.754(r) or captured KVII in German service. The set includes hinge detail for the hatches, turned brass pistol ports, new hatches for the German cupola, details for the jerry cans and a new rack to hold them and a new rack for the rear ammunition store along with the usual grilles and tool latches. Finally we have a superb multipart late production Panther gun barrel to fit the recent Dragon kit.

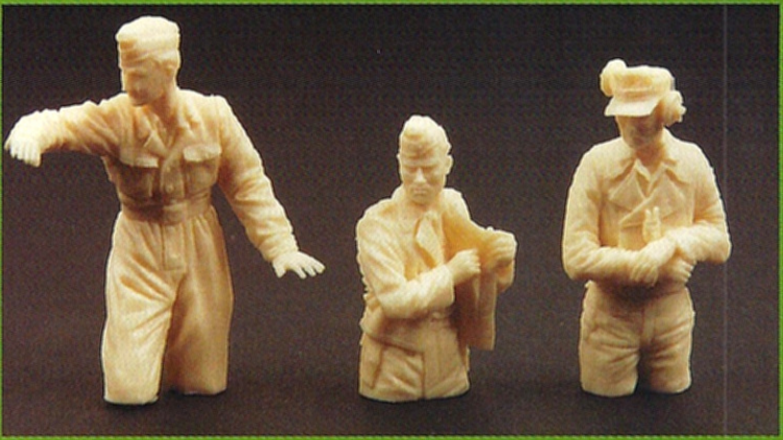
SOVEREIGN 2000
Humber MK 1 armoured car
Not suitable for children

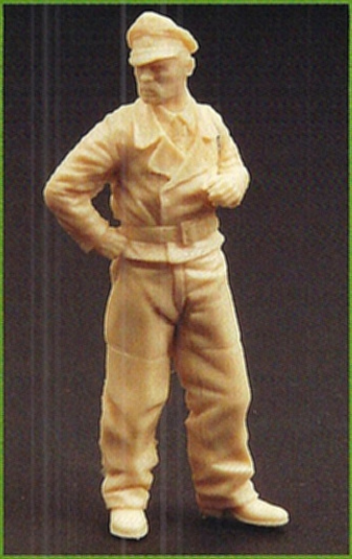


Sovereign 2000
Humber Mk1 Armoured Car

Sovereign 2000 have discontinued their original Humber Mk1 kit and in its place we have this completely remastered new version which has just been released. The kit is almost entirely produced in resin with a few white metal parts and the quality of the resin casting is flawless. The main hull casting is a solid lump with a basic chassis moulded into the underside. On to this the rest of the chassis locates and you are guided by some clear photographs in the instruction sheet. The turret is hollow moulded allowing for easy crew installation and the quality of fine detail is very good with the turret hatches nicely handled with well textured padding inside. The wheels are also very crisp and the kit includes an optional spare mostly seen on vehicles in North Africa. A separately moulded hub only adds to the sharpness of the finished look. Its quite a simple vehicle and assembly should present no real problems. If pressed to find fault then the only negative area for me is the main gun which is cast in white metal and looks slightly soft by comparison with the rest of the kit, not that it is a really big issue. No markings or guidance on paint schemes are included so it is up to the modeller to consult his own references. To sum up, a perfect example of the very best in resin kits, beautifully cast and tackling niche subjects and a kit that I cant help but recommend. If you want one then they are available direct from Sovereign 2000 email: dav.m@btinternet.com or from Historex agents

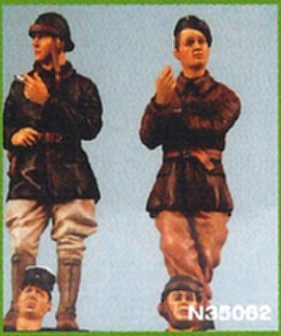
Keeping Track - new releases

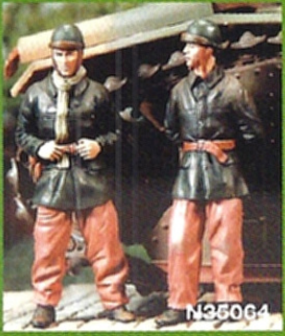


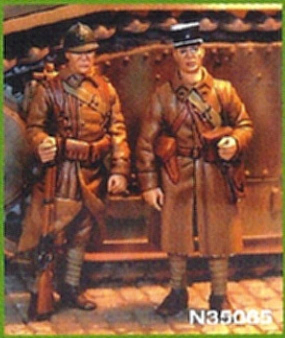


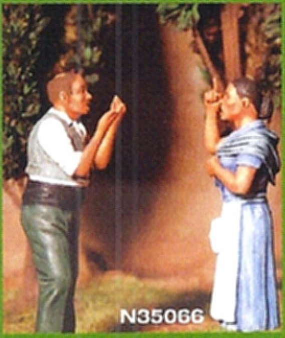
S&T Products
STP-35013 Panzer Commander standing Normandy
STP-35014 Panther Crew 12th SS Normandy

Having done his thing for WWII US Infantry figures sculptor John Rosengrant has turned his attention to some German subjects. With such a popular subject it must be hard to find a fresh approach but the three man Panther crew works really well with the Commander casually leaning on the cupola with folded arms, the driver standing in his hatch leaning on the gun barrel and the co-driver reaching inside his jacket. To compliment these three there is a single standing Commander figure who holds a cigarette in one hand. Both sets feature delicate detail and flawless casting. Although designed around the Panther they would no doubt work equally well with other vehicles. John Rosengrant at his best! Available from www.afvmodeller.com



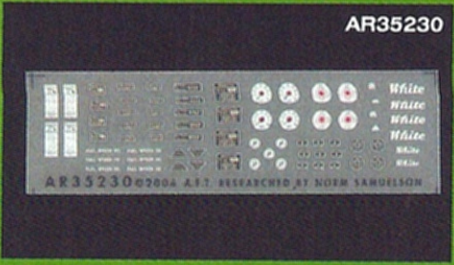




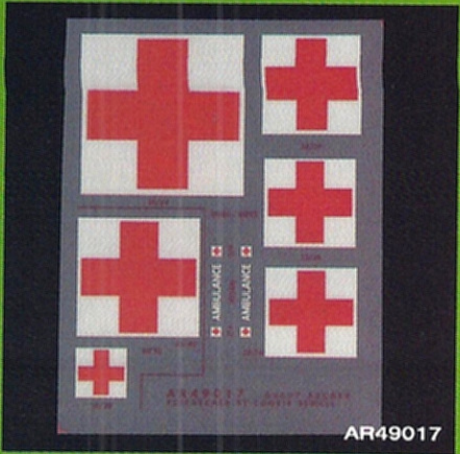


Nemrod

With the various recent mainstream WWII French releases the lack of French figures has been apparent, so who better than French company Nemrod to help fill this gap? N35062 is a set of two French tank crew casually posed smoking and leaning backwards against the vehicle of your choice although the tall sides of a Char B1 Bis would be ideal. This set comes with a choice of two additional heads. The next set N35064 also contains tankers, again casually posed but no additional heads this time. French Infantry figures are exceptionaly rare so N35065 is especially welcome. This officer and infantryman pair stand casually and the set includes four heads and a spare helmet and kepi. Finally we have a civilian couple N35066 involved in a bit of a 'domestic' with much gesturing and pointing going on. Don't let the box top illustrations influence you because these figures are extremely high quality with crisp detail and good anatomy. The two infantry figures in particular are packed with crisp detail especailly with all their equipment which is all moulded as separate parts. You can't help but want to assemble them and get some paint on those crisp details.


AR35230

AR35231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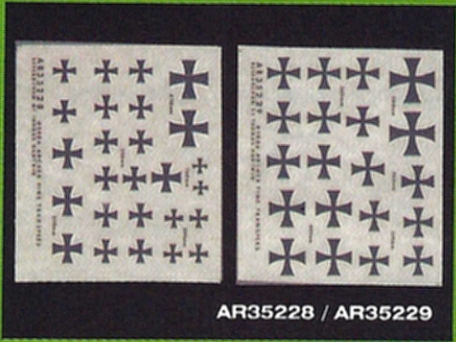

AR35228 / AR35229

AR35232

AR49018

AR35233

Archer Fine Transfers

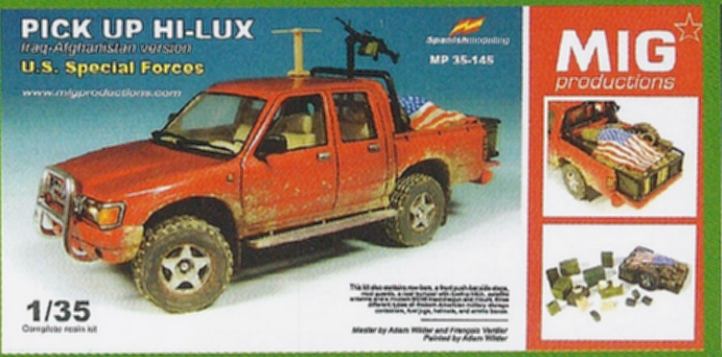
Here is the latest round of releases from Archer and we begin with more 1:35th scale markings to suit the new Dragon M2/M2A1 kit. Set AR35230 provides the instruments and placards for the M2/M3 family and even provides the label for the fire extinguisher. Four examples of each label or dial are included and having used the set myself I can confirm it makes a real difference to the finished kit. The next two releases provide exterior markings with AR35231 having markings for an M2 used in operation Cobra and AR35232 supplies markings for an M2A1 of the 10th Armoured Division in Germany 1945. Staying with 1:35th we have two sets of Modern German National insignia with AR35229 giving examples in pre 1985 design and AR35228 giving 1985 to the present day examples. Finally in this scale we have AR35233 which is a set of OIF signage which is printed onto a self adhesive paper so you simply need to trim and apply them to your chosen backing. The set includes an explanation for each of the signs. In 1:48th scale we have two medical themed sets with AR49017 supplying generic US Ambulance markings and to work with it set AR49018 provides Miscellaneous US Medic markings.

MODEL FIBEL
SELF-PROPELLED GUN Vol.1
モデルフィーベル
自走砲 Vol.1
MODEL Art

Model Fibel Self Propelled Gun Vol.1

Published by Model Art
Soft back portrait format 148 pages

Its been a while since we had anything new from Model Fibel but here is a new volume concentrating on the self propelled gun. The book deals with the construction and finishing of the Nashorn, Marder III H, Japanese Type 3, Sturmtiger, M40 Big Shot, SdKfz 251/21, Marder 1, Hetzer, two versions of the Achilles, Brumbar, Flakpanzer 1 and SdKfz 234/4. Quite a varied bunch with at least 3 of them you might argue are not really self propelled guns but lets not get picky. With different modellers tackling different vehicles the quality is a little variable but there is plenty of good old fashioned cross-kitting, scratchbuilding and replacement brass work to admire. In many cases however some great building work is let down by some average painting and finishing which is a shame. Text is Japanese but there is an English translation included along with some useful reference pictures and drawings.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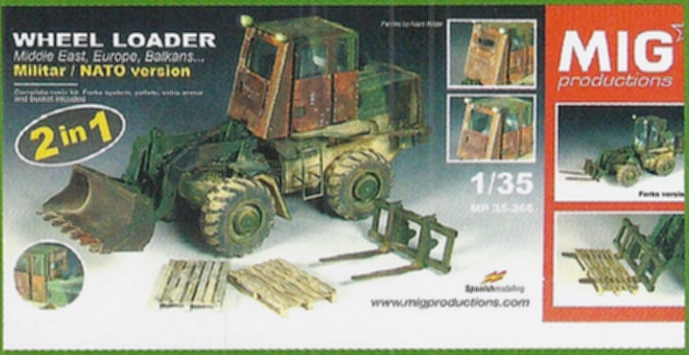
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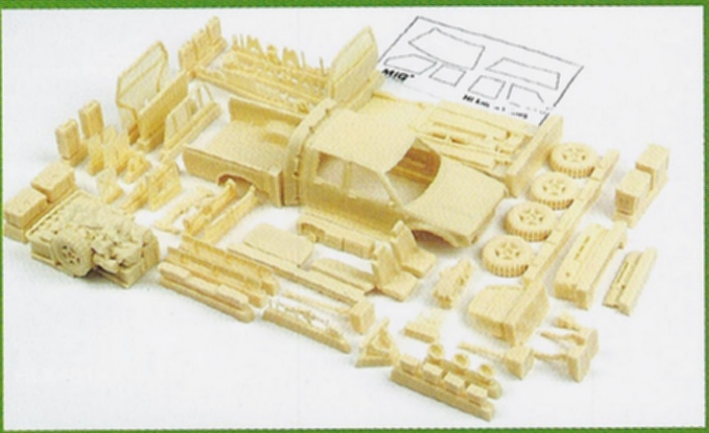
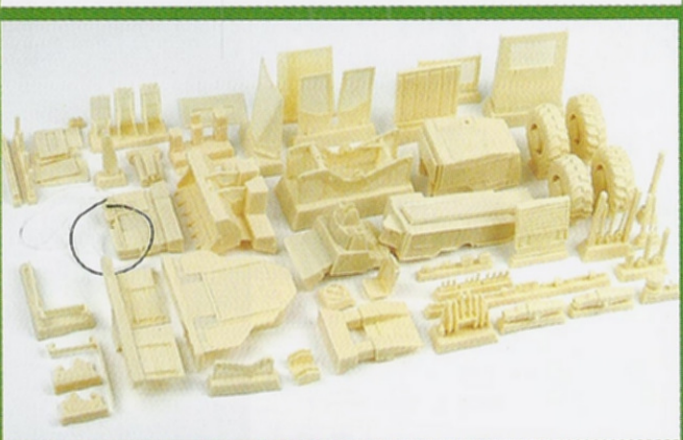
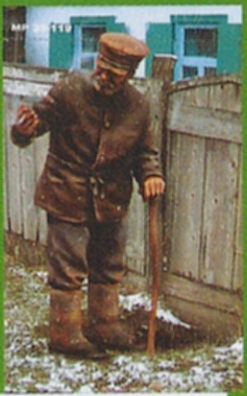
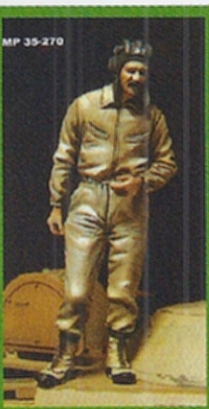
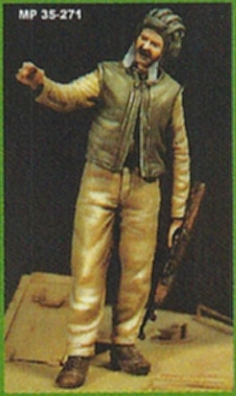




502 Abteilung







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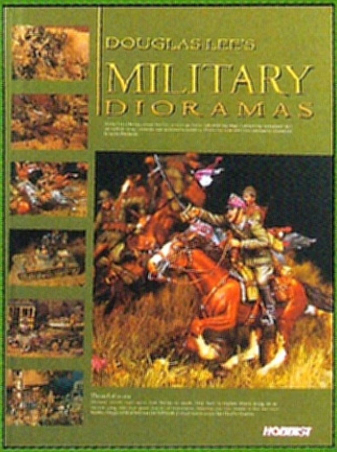
MIG Productions

MIG Productions can always be relied upon to come up with something a little different and that is certainly the case here. Their new Special Forces Hi-Lux pickup is a most impressive kit and as you can see, you certainly get an awful lot in the box! Its one of those kits that refuses to go back in the box once it is unpacked. The kit is well cast and very detailed with a complete cab interior although the doors are moulded shut so this will only be visible through the windows. Underneath the four wheel drive system is replicated and the Special forces version comes with some very smart 'star' pattern alloy wheels. Also included in this version is the bull bars for the nose and rear roll cage with MG mounting and optional stowage loads for the pickup bed. Similarly impressive is the Nato Wheel Loader which is a massive kit packed with some chunky big bits of resin. This kit comes with the choice of bucket or forklift mounts and the optional add on armour seen on the box art, as well as two pallets. Lengths of wire and flexible plastic tube are included to add the hydraulic details and assembly should be no problem for the experienced builder although there are some heavy duty casting blacks to remove from some parts. Just like the Hi-Lux a colour photo sequence guides you through the assembly sequence. It will build into an impressive vehicle with plenty of diorama potential. From one extreme to the other now with a simple small kit of a Soviet B-11 Recoilless Gun. As usual it is delightfully handled just look at those superb wheels!

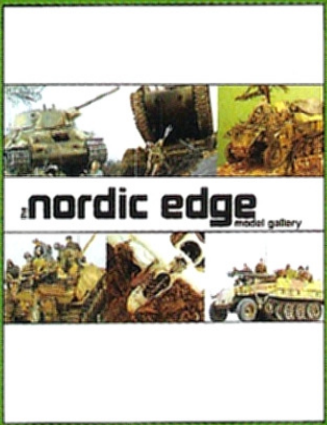
New figures now and we have a pair of modern Arab Tankers, both in casual poses and another under represented subject. The sculpting is excellent and these will obviously suit a variety of vehicles, expect to see one on a T55 near you soon. More diorama fodder now with a characterful WWII era stooped old Russian civilian. Finally we have samples of the Abteilung 502 modelling Oil colours, with twelve different colours. Quite what makes them especially suited for military modelling is not clear as some of the colours are quite vivid. We have not had time to test drive them yet but hopefully we can test them out on a forthcoming project.



Douglas Lee's Military Dioramas

By Douglas Lee Published by Hobbist Enterprise
Hard back portrait format 175 pages
ISBN 0-9782269-0-9

You can't fail to have been impressed by the stunning diorama work of Douglas Lee and now this new book by Douglas goes behind the scenes to explore the development of and techniques behind his amazing work. This impressive visual led book traces the development of four of these impressive dioramas which have been documented in some considerable detail. Sculpting of the figures is traced almost step by step and you will wonder at the skill of the author as he turns his hand to sculpting a cavalry charge, complete with tumbling horses and riders before moving on to assorted zoo animals! The authors' thinking and techniques are clearly explained and his demonstration of how to model a bombed Berlin street is a lesson for us all. The book concludes with 'Ten Commandments for making better dioramas' which everyone should read as it encompasses so much of the skills required and explains exactly why Douglas Lee is surely one of the finest exponents of the art today - superb!



The Nordic Edge Model Gallery

Edited by Toni Canfora
Published by Canfora
Grafisk From & Förlag
Soft back portrait format
144 pages
ISBN 978-91-976773-0-1

Maybe its those long cold Winters - whatever it is there is no doubt that the Scandinavian countries are home to some very special modelling talent. This new book showcases the work of some of these well known masters along with some less well known but nevertheless, equally skillful modellers. Superbly photographed and printed in full colour the book begins with a series of articles where modellers like Mirko Bayerl explain their techniques and philosophy before moving on to figure, armour and diorama galleries. It features virtually no in- progress photos if that is what you are looking for, concentration almost exclusively on pictures of the finished models which as the Editor explains was always the intention. It is quality from end to end with plenty of inspiration for the non-Scandinavians to draw upon and marvel at!

Our sample was kindly provided by Historex Agents www.HistorexAgents.co.uk.

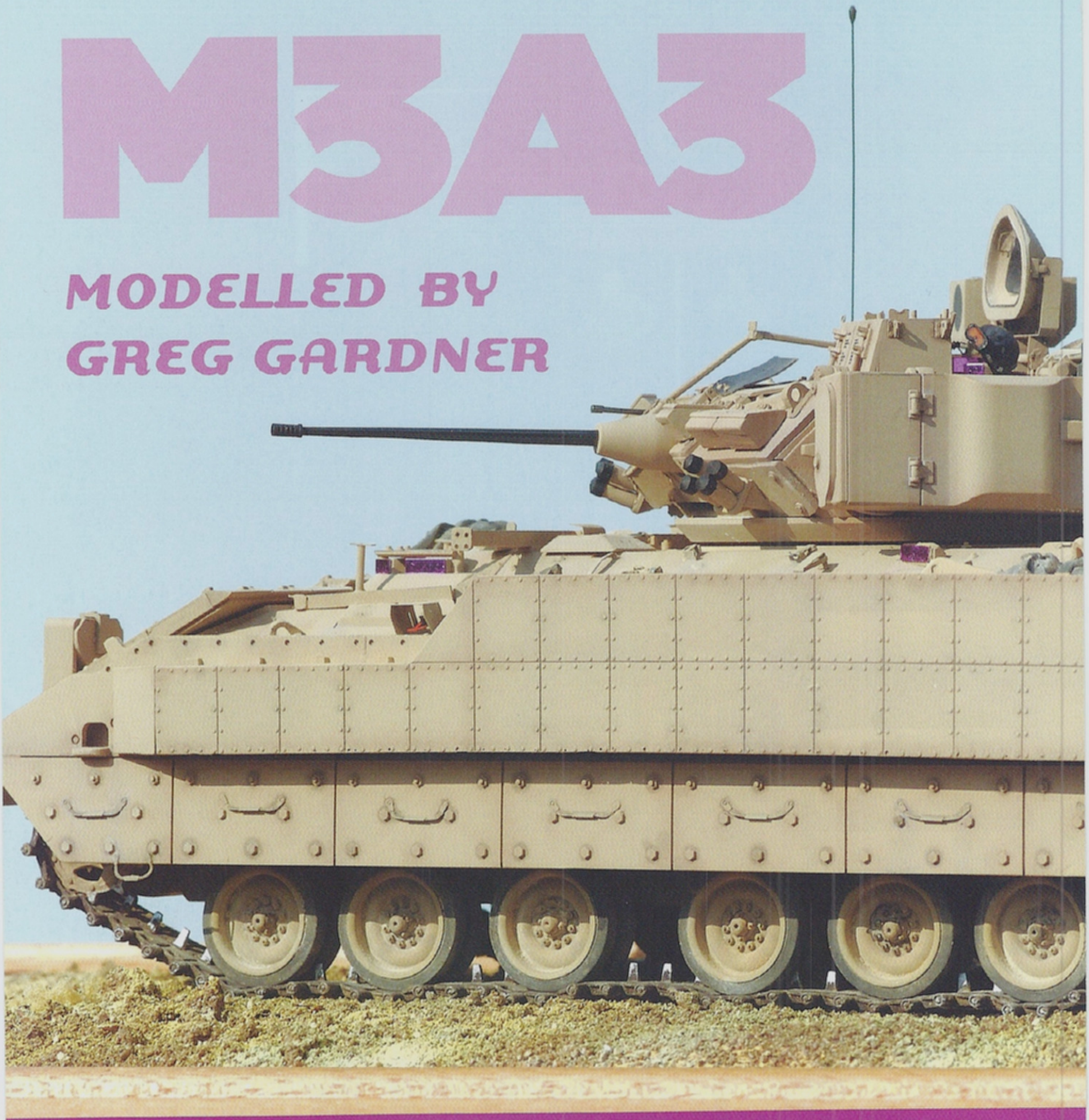
CYCLES
FAVOR
MOTOS

Enygma Graphics 1:35 Poster Packs

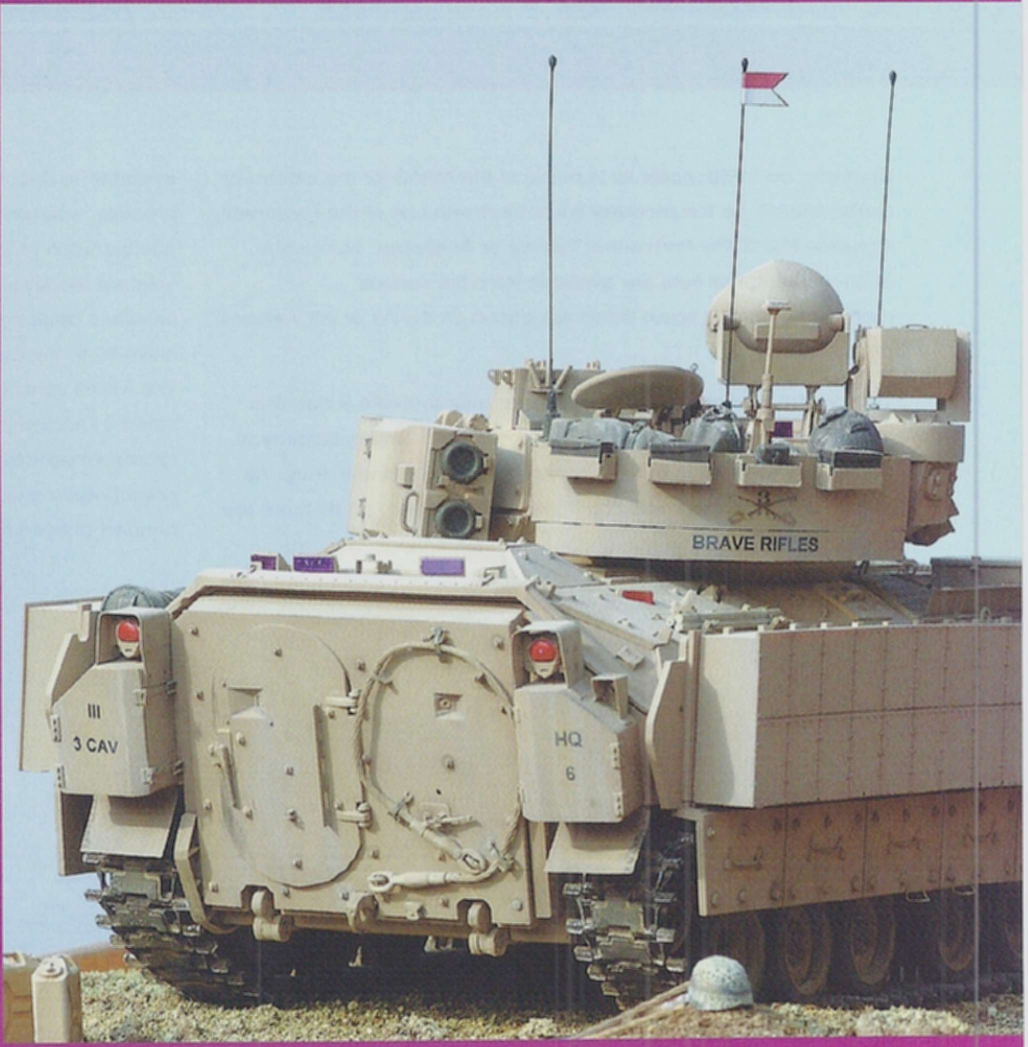
What I especially like about these sets of posters and what sets them apart I think is firstly the high quality of the print which is incredibly fine and probably better than on the original posters and secondly the quality of the paper they are printed on. The paper has a perfectly matt finish as does the print and the paper is thin enough for a realistic finished effect. The quality is simply stunning and the choice of posters is huge with each set containing two different sheets with an average of 70 individual posters. We have samples of German WWII Posters pack 3, European Advertising Posters 1930's/40's pack 2 and 3 and Italian Political and Advertising. For more information visit Enygma Graphics website: www.EnygmaG.com

M3A3

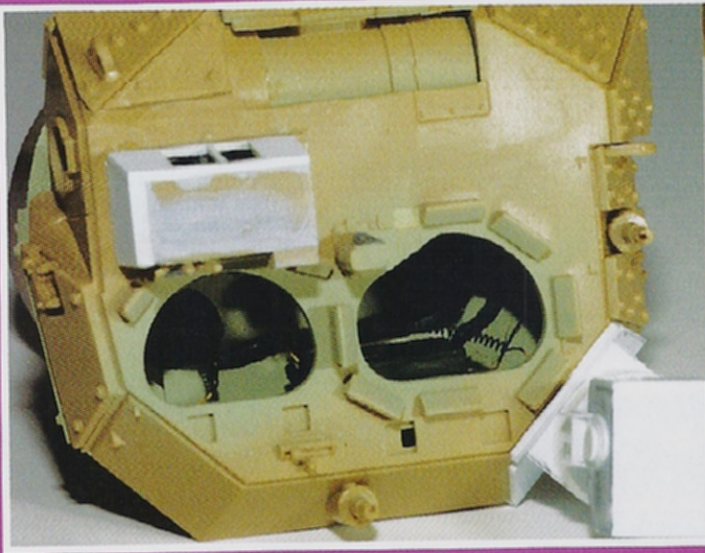
MODELLED BY GREG GARDNER

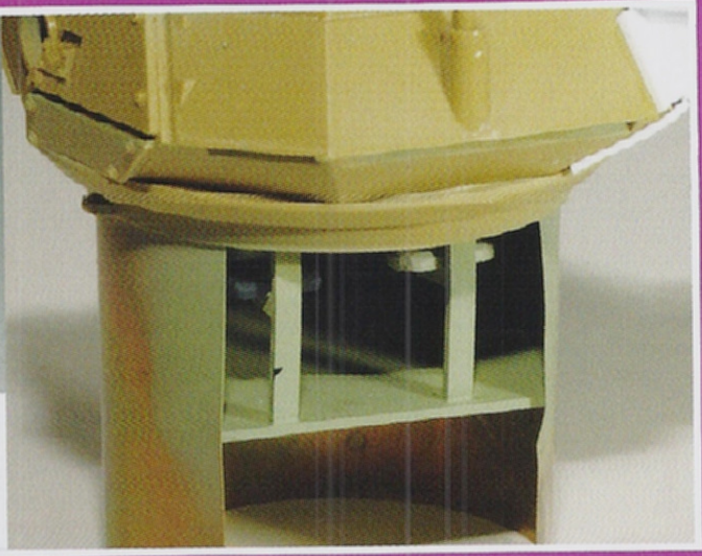


THE M3A3 CAVALRY FIGHTING VEHICLE 3RD RMOURED CAVALRY REGIMENT. FORT HOOD, TEXAS



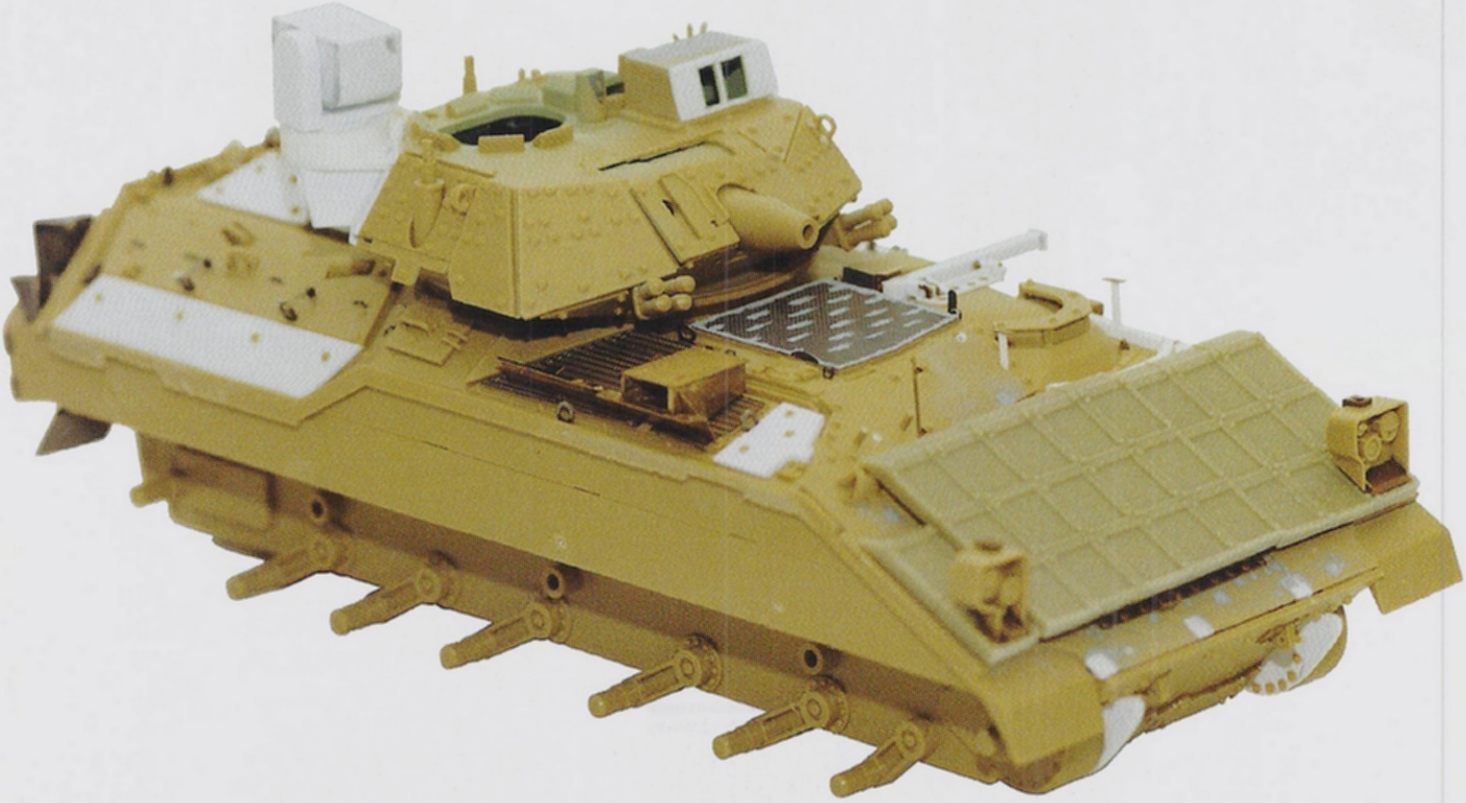
The United States Army's M3 Cavalry Fighting Vehicle has gone through numerous modifications and upgrades since it was introduced into service in the 1980's. A veteran of wartime combat operations, peacekeeping duty, and long years of training, the newest version of the Bradley CFV shows ample evidence of the lessons learned from Bosnia, Kuwait, and Iraq. The most obvious change to the M3A3 version is the commander's independent thermal sight. Numerous, though less obvious upgrades are evident throughout the vehicle. Pictures of Bradleys in Iraq show many additional local or unit upgrades and markings, making each vehicle unique in its' own right.





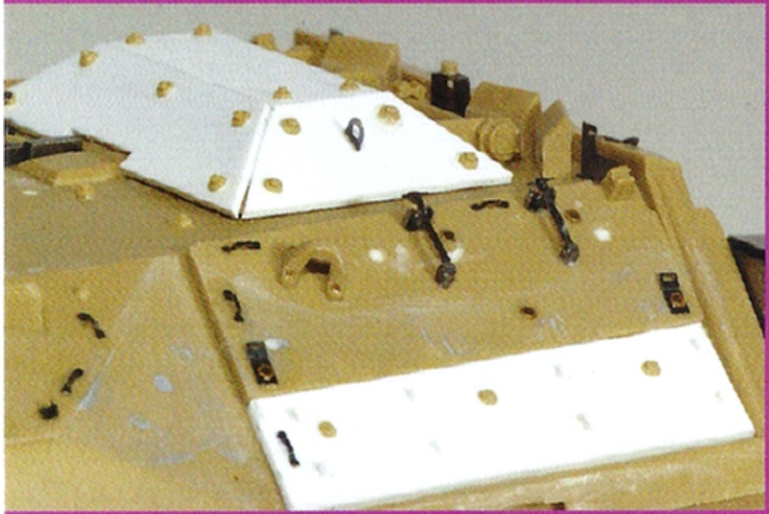
Currently, no 1/35th scale kit is made of the M3A3 (or the externally similar M2A3), so the modeller must start with one of the reasonably accurate M2A2 kits from either Tamiya or Academy. Numerous after-market detail sets are available from the various manufacturers, but again these are based on the A1 or A2 versions of the Bradley.

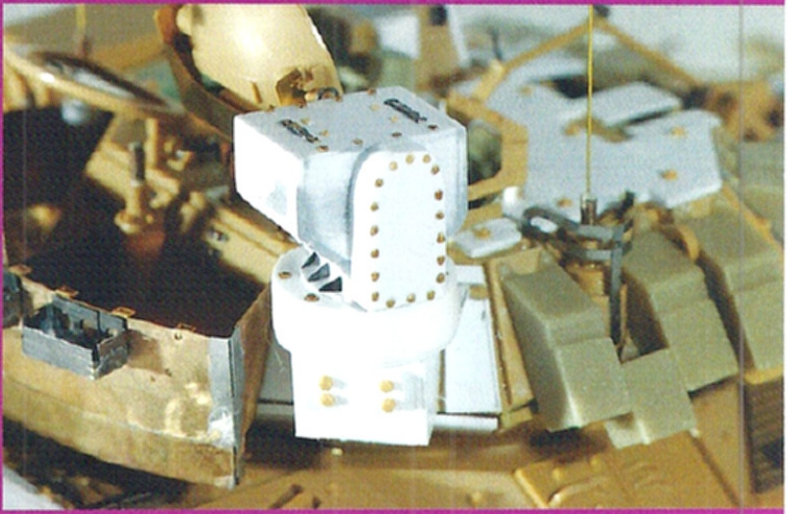
This project was started based on a request to make a detailed replica of the Bradley CFVs that 3rd Armoured Cavalry Regiment will receive to replace the equipment they left behind in Iraq. As these vehicles are currently being remanufactured, no pictures are available to document any new changes being made during this process. I searched every source I could find to document the configuration of the M3A3, but found the documentation needed was not readily available. I had nearly given up when I found an excellent book entitled "Bradley Company" by Hans Halberstadt. It is No.30 in the Europa Militaria series from the Crowood Press. The M2A3 vehicles portrayed in this book were issued to the 4th Infantry Division prior to their recent deployment to Iraq and represent vehicles relatively fresh from the factory. The photographs show excellent detail of most parts of the vehicle needed to build an effective model.



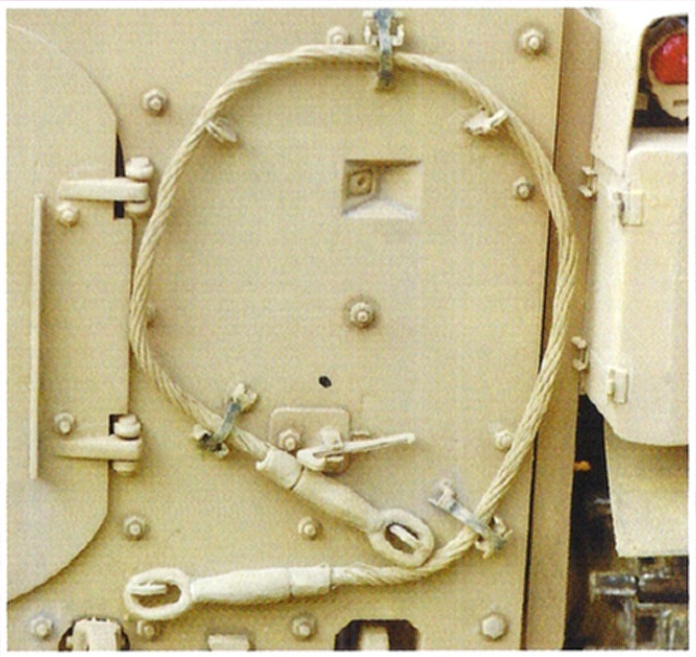
I started construction on the turret assembly with the goal of including sufficient detail to leave turret hatches open. While the Eduard photo-etch interior sets provided a good starting point, they needed significant modification to bring them up to A3 standards. The commander's flat panel display, keyboard, and numerous hoses and wiring were added using plastic stock and brass rod. Regretfully, I do not have any pictures of the turret interior during build or before putting the turret together.

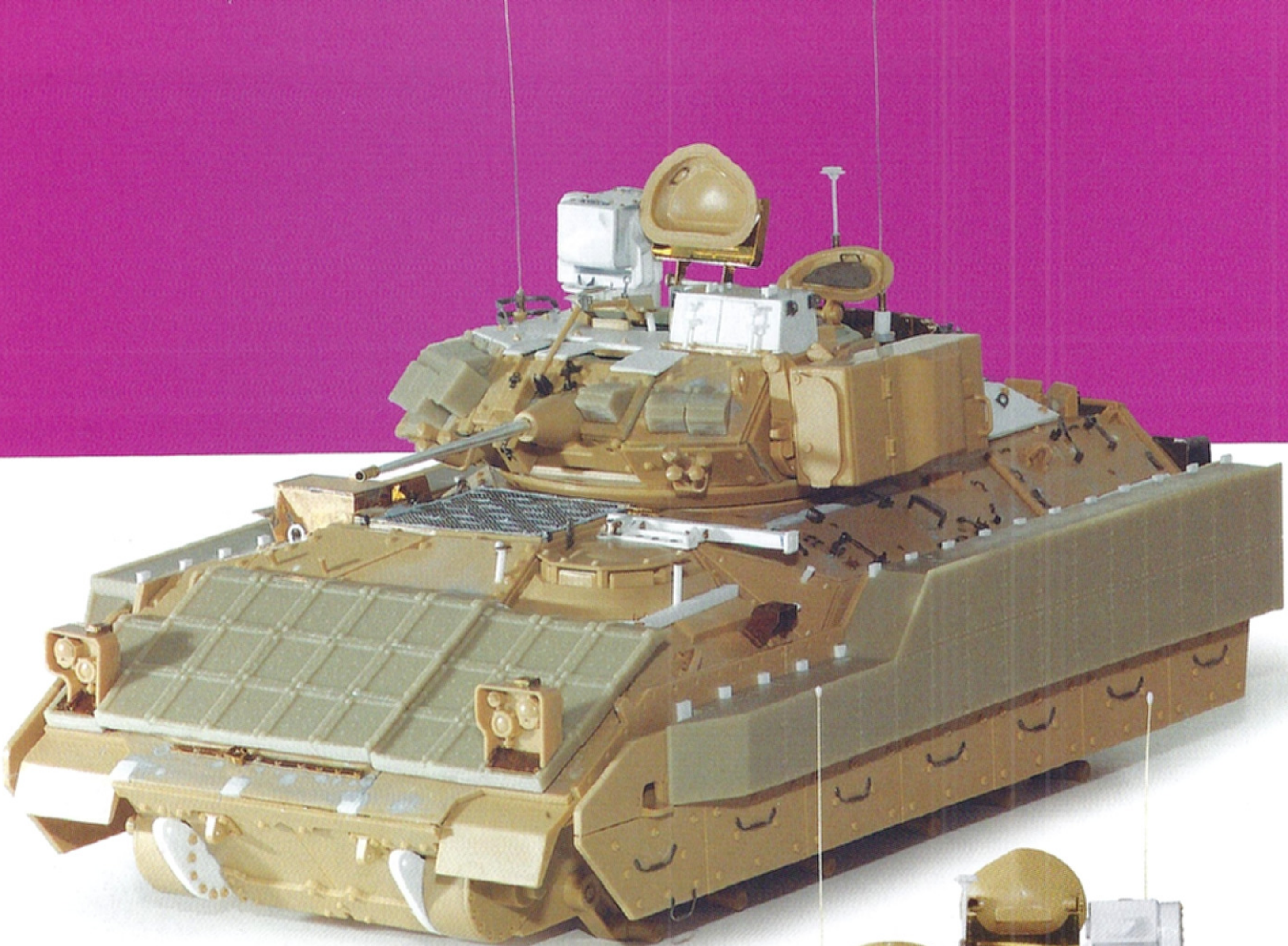
Several weeks were consumed building and weathering the exceptional Fruilmodel "Big Foot" tracks for the Bradley. These castings turned out to be the best part of the model thanks to a simple technique I learned from Jim Hensley in his superb book "The Modeller's Guide to Jagdpanzer". After soaking the completed track in distilled vinegar for 24 hours, it is soaked in a product called "Blacken It" for about 5 minutes. The solution continues to weather the metal for a period of several days, so ensure you wait before finishing the weathering process. After painting the track pads with Vallejo Black Grey, I gave them a black/dark brown oil wash thinned with turpentine. Following dusting with MIG pigments, a dry brushing with Humbrol steel gave the tracks a very realistic finish.



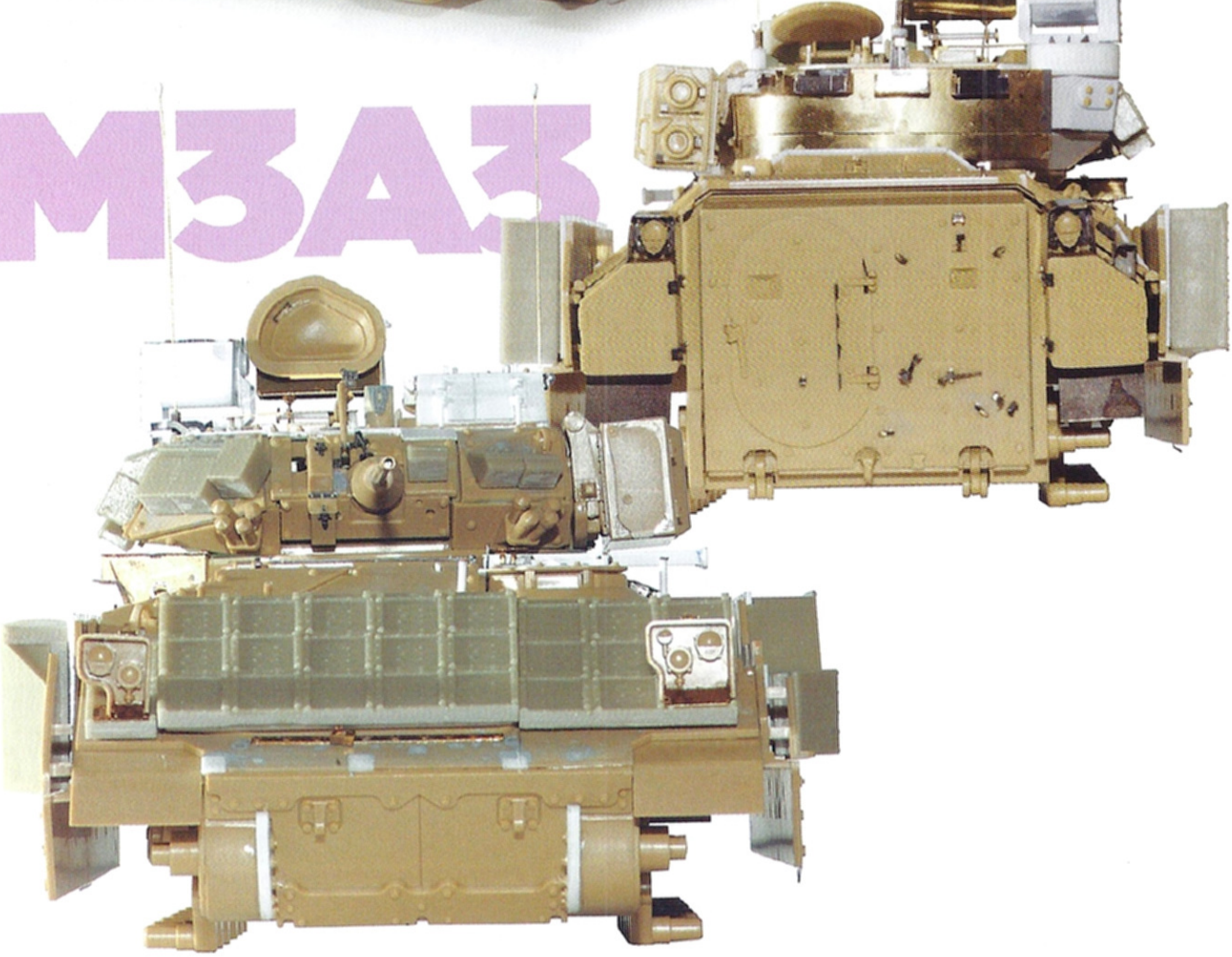


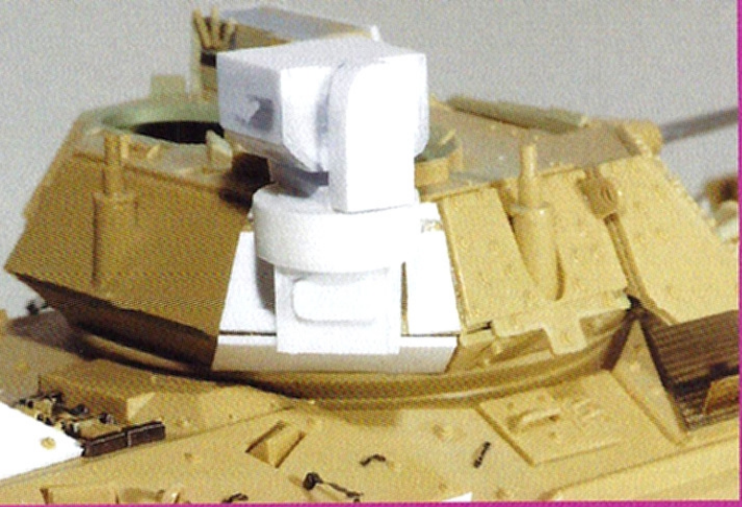
The construction of the hull was straightforward except for locating the proper positions for tools and cleaning rods as they have changed significantly from the A2 version and scratch building the new mounting for the driver's hatch. I could not find any good photographs showing the tool locations, although the tool fittings and hold-downs were well documented. As I did not want to guess at locations, I left most of the tools and cleaning rods off the vehicle. As the photographs show, many units leave these tools locked up during local training exercises as they are easy to loose or damage. I was impressed with the wire tow cable provided in the Voyager M2A2 detail set, a significant upgrade from plastic or string. As can be seen from the accompanying photographs, additional armour was added using plastic sheet. The bolt and rivet detail was added using plastic bolts scraped off of the old Bradley side skirts using Mission Models excellent Micro-Chisel. This allowed me to match the bolt detail found on the remainder of the models armour plates. The driver's hatch required extensive modification as the mounting hardware is totally different to

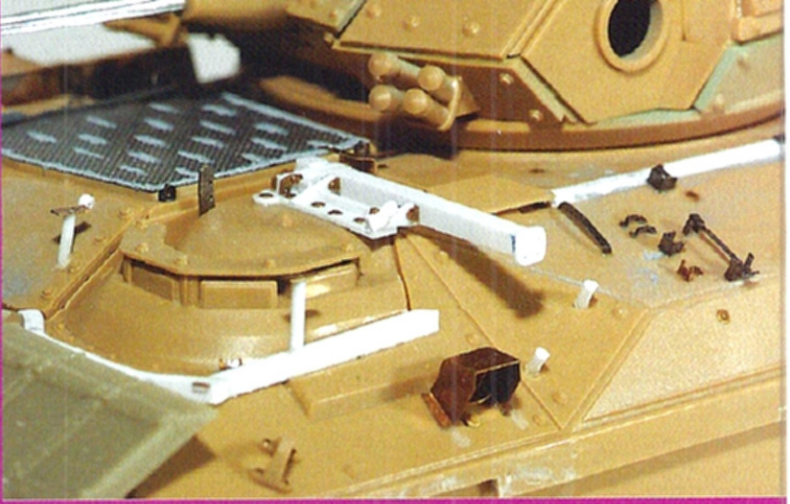




M3A3

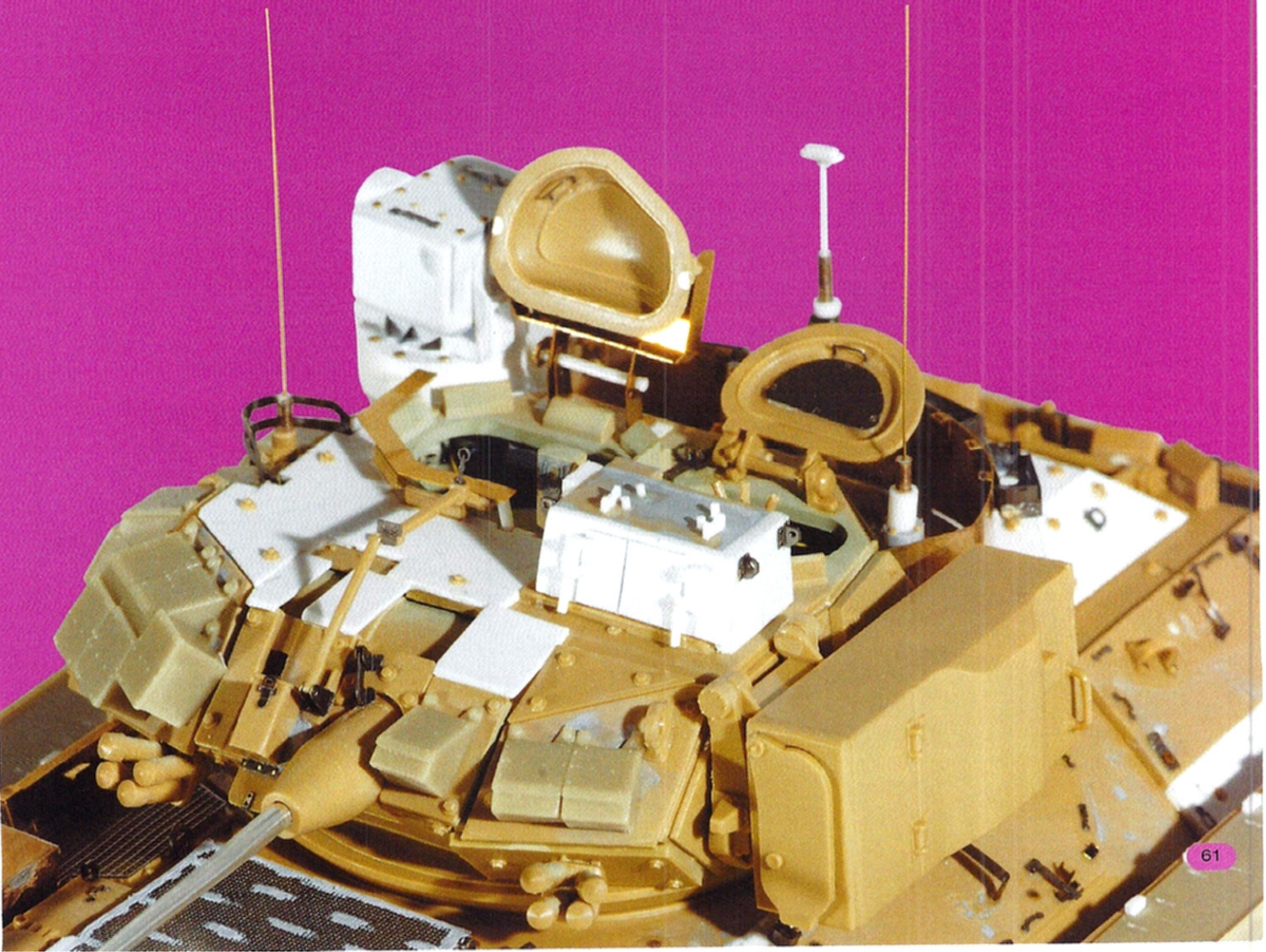






Verlinden's Explosive Reactive Armor castings required only minor filling, although one side panel required quite a bit of straightening due to warpage during shipment. In addition, Verlinden did not mold the mounting rails for the side and front ERA panels into the casting. There are some great articles on the web that document the necessary additions to detail the mounting hardware.

Probably 70% of my time was spent in modifying and building the turret. As stated previously, the commander's independent thermal viewer is the most obvious new addition to the turret. I built the sight and its mount using plastic sheet and thin brass. The bolt detail and handles are brass. While I decided to paint the apertures on the sight, in hindsight I would have drilled the openings and used a painted backing as there is a slight offset between the face of the sight and the protecting cover for the thermal. While I found good photographs of the sight itself, I could not find any good documentation of the modifications to the turret bustle rack needed to accommodate the commander's independent thermal sight. My work is a close approximation of the original, but not exact. The most time consuming portion of the turret was actually the additional armor added to the top of the turret. The armor fits around the commander's periscopes and took no less than four attempts to get right. The TOW sight has also been significantly modified from the A2 version and required a new set of doors and hinges, in addition to modifying the overall

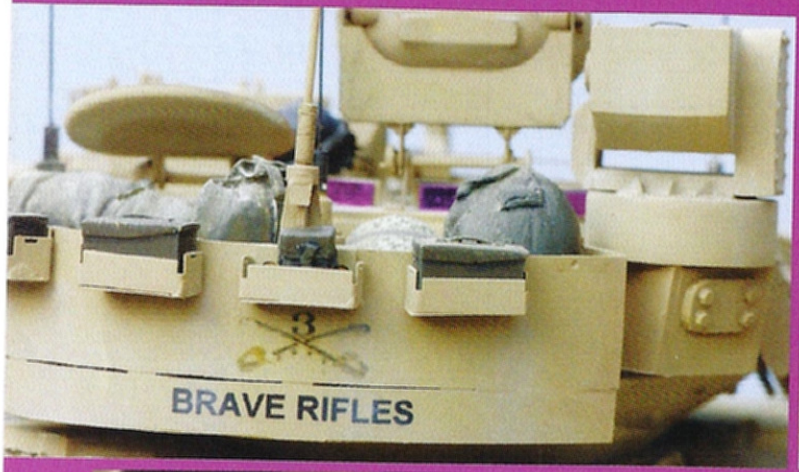


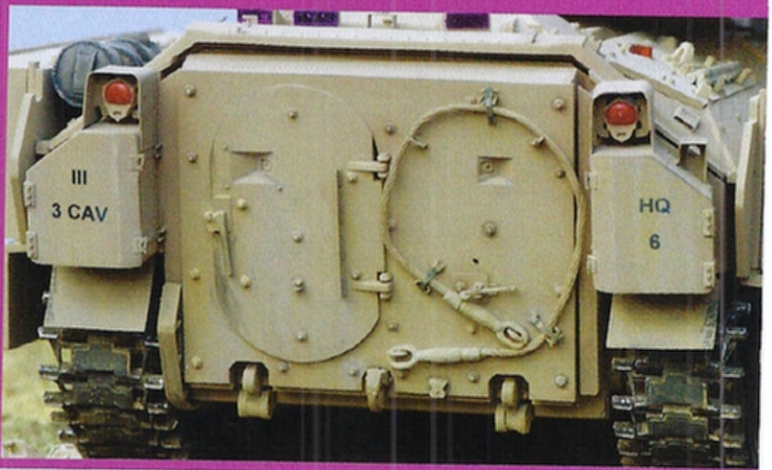
Painting

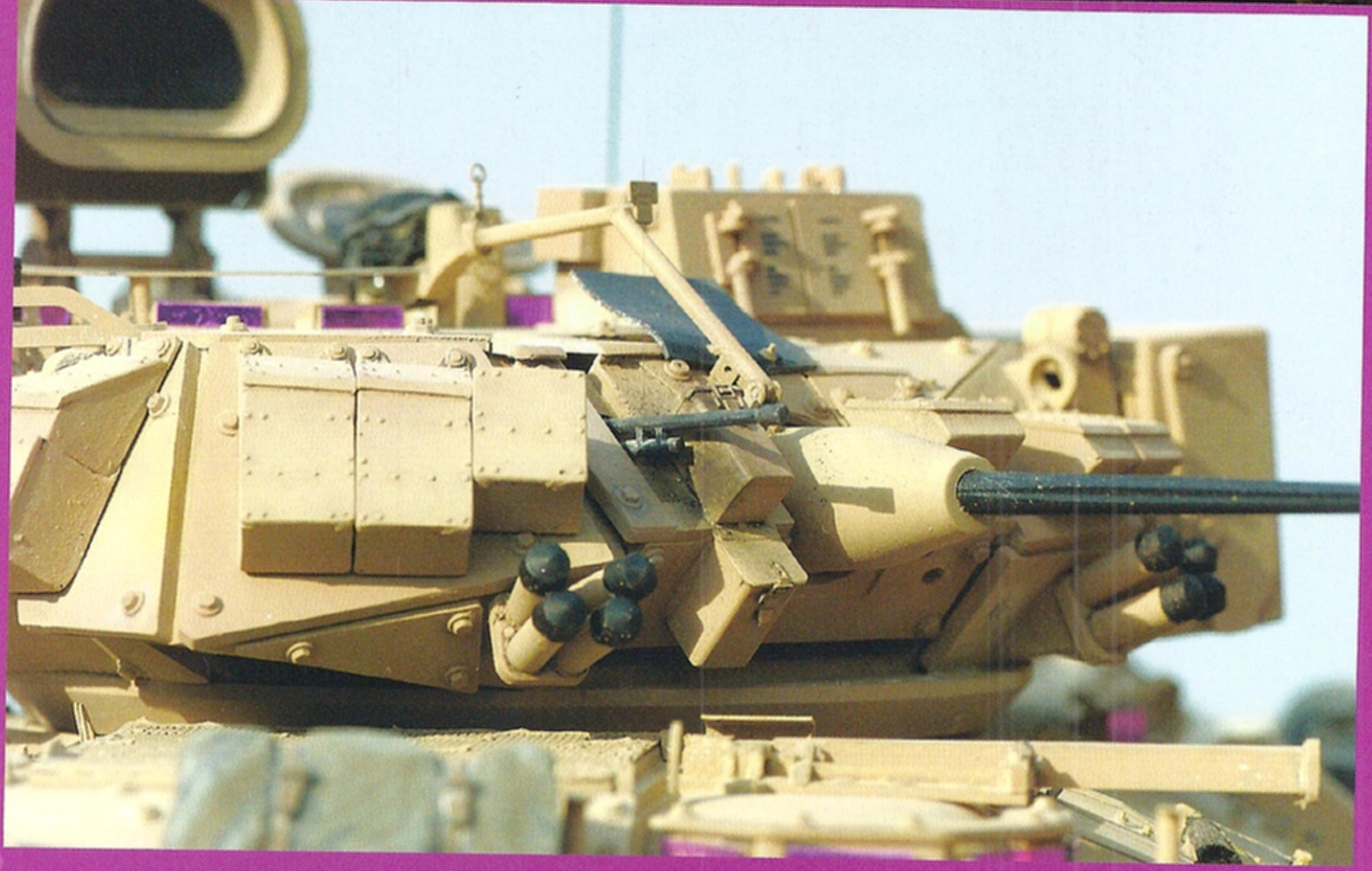
Painting and weathering was purposefully designed to portray a relatively new vehicle with little damage and light weathering due to the intended use purpose of the model. I began the exterior painting by pre-shading the panel lines and details with Tamiya Nato Brown. The base coat is a 4 to 1 mix of Tamiya Buff and Dark Yellow for the base coat thinned with 60% Tamiya thinner. After drying, I highlighted panels and large flat areas by adding 15% white to the base coat.

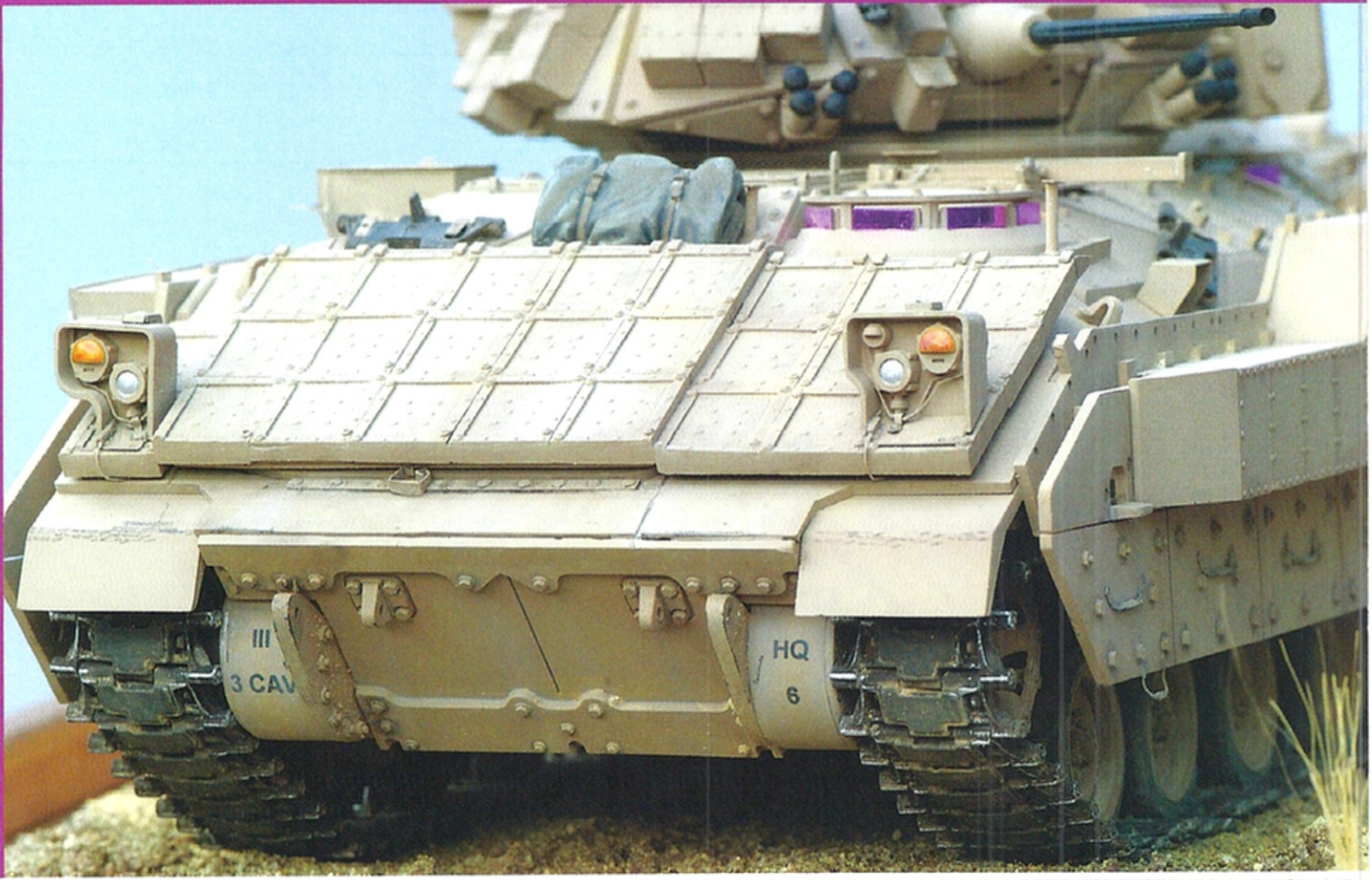
After mounting the tracks, Fruilmodel drive sprocket and road/idler wheels, I printed my own decals on a laser printer and applied these before beginning weathering. Weathering began with a light black/dark brown oil wash along seams and around details. Darker and heavier washes were applied to the hull and road wheels. This was followed with some very subtle washes of oil colors (mixtures of black, yellow, dark brown, and red to replicate various streaks and stains. After allowing the model to completely dry, light dry brushing was done with a lightened base mixture to highlight detail and edges. This was followed by a graphite pencil and artist's stub to give that metal look to edges worn by hands and feet. Smoke stains from the Bushmaster and machinegun were airbrushed using Vallejo black. Final weathering was accomplished using MiG's pigments applied directly to the model and scrubbed into the surface.

The final details added were the periscope glass. Photographs show the periscopes reflecting light in different colors based on the angle and intensity of light. The periscope glass appears in pinks and reds in most photographs. After discussing with several fellow modelers, I decided to use sequins purchased at a craft store. These were cut and glued onto the face of the periscopes. The





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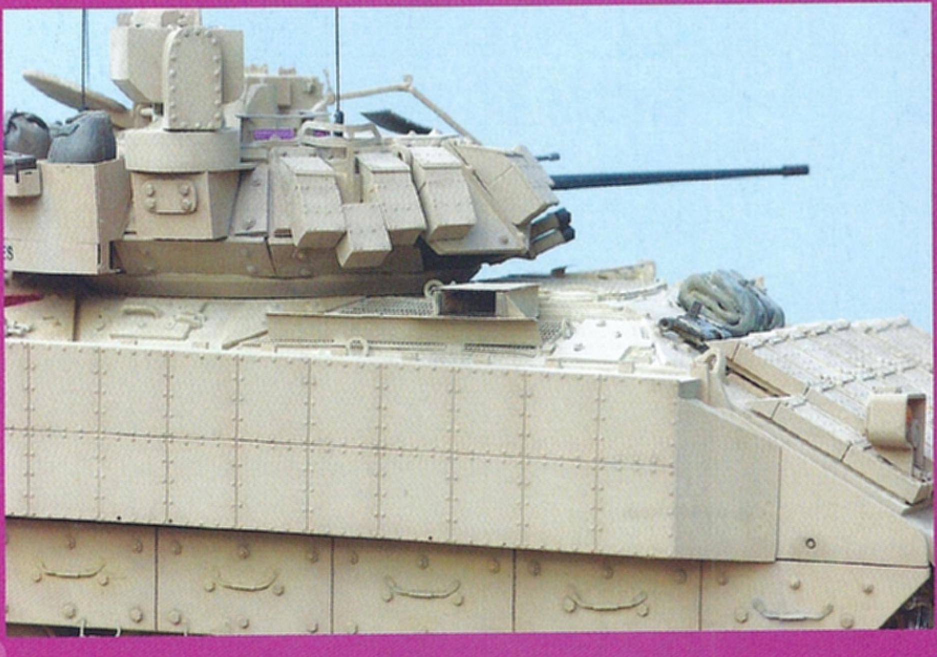

end result was rather more garish than desired, but definitely adds some colour to an otherwise pretty plain vehicle. Given additional time, I would have used cut clear plastic or glass for a more realistic look.

Many of the decisions made in the construction of this model were based on the time constraints I was under to complete it before the individual we were presenting it to PCS'd. This model begs for an open rear ramp and detailed interior, but would have taken more time than I had to complete – I still have a real profession. The model was dedicated to the soldiers of the 3rd Armored Cavalry Regiment who gave their lives or were wounded in Iraq. Brave Rifles.

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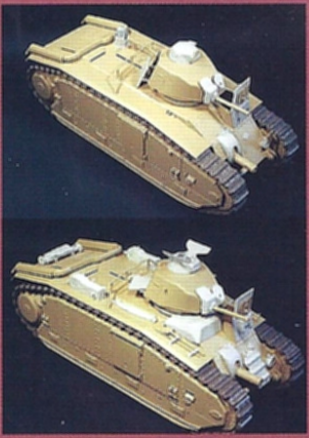

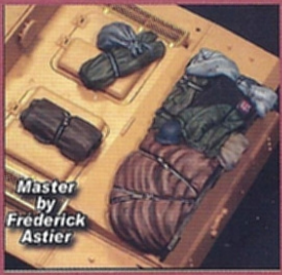
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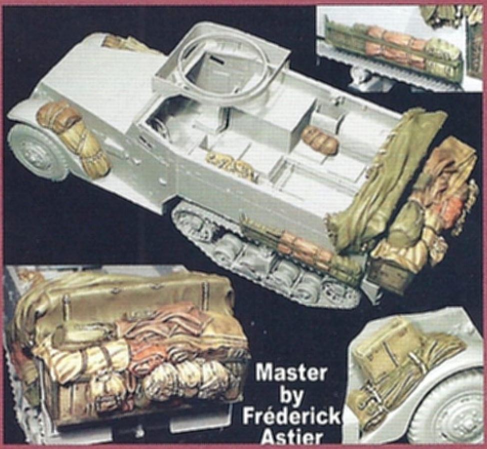
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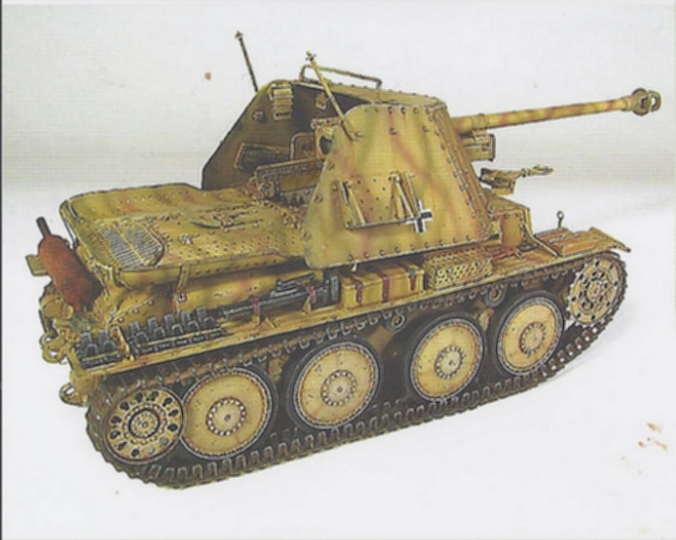

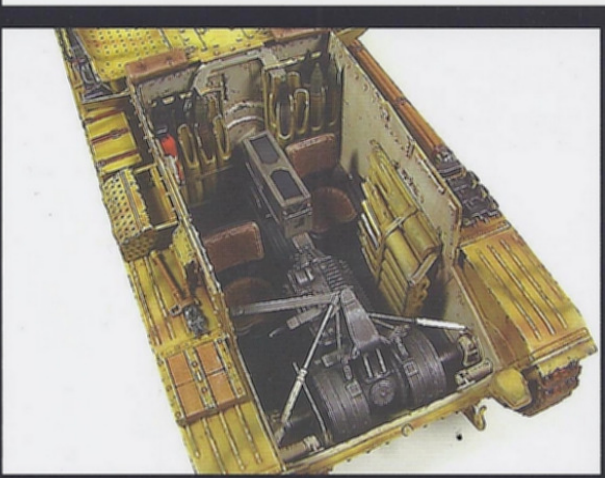

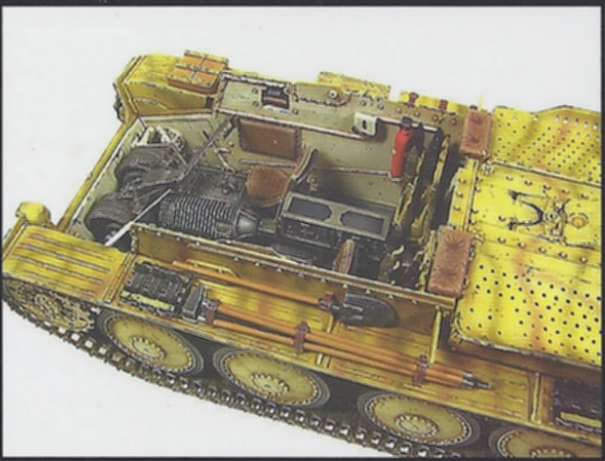

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